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Society Reports.

OBSTETRICAL SOCIETY OF CINCINNATI.

Stated Meeting, Dec. 11, 1884.

DR. GEO. E. JONES, President, pro tem, in the Chair.

Dr. J. L. Cleveland presented the following paper on

INFANT FOOD.

Ordinarally when a child is born, it is not a problem how it is to be fed. The mother's milk is sufficient, and that is ready for the little stranger. This is the rule. But unfortunately there are a *great many* exceptions to this rule. The mother's milk does not agree with the child, or she has no milk, or her physical condition is such that it is best for the child not to nurse, or for social or prudential considerations the infant is not allowed to nurse. These disbarments of the infant from its natural aliment, either from artificially imposed restrictions, or from physical inability, seem to increase as our civilization advances. It is not our place at the present time to inquire into the cause, why this is thus. But that the fact is as stated, will hardly be questioned by the most pronounced optimist. This then presents forcibly the importance of infant diet.

The infant organism is a bundle of potentialities mentally, morally and physically; and the digestive tract upon which development depends, is at the time of birth in a potential state; it has never functionated in the true sense of the word. The salivary glands are dormant, and scarcely act at all under two or three months. The teeth do not appear for several months; the stomach is small, and the intestinal tract short, and all of the organs of digestion, except the liver, are imperfectly developed, and the part that it plays in digestion is as yet an unsolved problem. We want a food then that requires neither mastication nor insalivation, a fluid that requires very little digestion, that is, that may be easily changed so as to be absorbed from the digestive tract. It is conceded by all, that mother's milk fills these conditions better than any other substance known, yet there are conditions that render the mother's milk "undesirable or impossible." Let us briefly consider some of these.

We all know that it is not uncommon to see robust, healthy looking women with large mammary glands, whose lacteal secretions are insufficient in quantity, and of poor quality, while delicate and unhealthy looking women will sometimes have an abundance of good milk, as the healthy

condition of her child will prove. But it must be remembered that the size of the glands are of themselves no positive evidence of their efficacy in producing milk, for the size of the gland may be apparent, due to the accumulation of fat, while the gland substance proper is deficient, while apparently small glands are efficient for functional purposes.

I think that as a rule after impregnation, or the reappearance of the menstrual flow, the milk is defective, though I think there are many exceptions to this rule.

Very nervous women are said not to nurse well. The effect of the emotions on the secretion of milk is at times very marked, at times entirely drying up the secretion, or so changing its quality as to make it poisonous, as we have the record in some famous cases where children nursed immediately after the mother had been under great excitement, were seized with convulsions, or they have even suddenly sickened and died. The child cannot nurse with hare-lip.

There are certain constitutional conditions that sometimes make it advisable to wean the child, or get a wet nurse.

The milk may be so altered in quantity or quality as to be insufficient for the nourishment of the child. It is so seldom that analyses are made of the mother's milk when it is found not to agree with the child, that we really know very little about the subject. We do know that the milk is frequently defective in some one of its constituents.

	Water.	Caseine.	Sugar.	Fat.	Salts, sol.
Woman's milk.	88.9	3.92	4.36	2.66	0.13
Cow's "	86.4	5.52	3.80	3.61	0.66

Each one of these ingredients have their specific purpose in the economy of nutrition.

Water is a solvent and diluent. The composition of the human milk, it being nearly 90 per cent. water, suggests to us a fact well known to the profession, but not generally recognized by the laity, viz., other things being equal the more fluid the food, the easier will be its digestion, and it is a mistake to thicken the infant's food by boiling it down, or adding foreign substances to it. The mother's milk is defective in water after profuse perspiration and may disagree with the child.

The caseine is facilitated in its digestion by the amount of water present, and it has been shown that simply by the addition of water to the digestive, the solution of caseine can be hastened. A relative or absolute increase in the amount of caseine makes digestion more difficult. This is seen in the coagula that are thrown up by infants that are fed on cow's milk, which has an excess of caseine, and is objectionable in part on that account.

Deficiency of butter is sometimes found in poor watery milk. This will straightway show itself in the nutrition of the child. The presence of fat make the digestion of caseine easier; where there is a de-

ficiency of fat it is said the infant will vomit up curds as though fed upon cows milk. Milk rich in fat is white. We observe this in cow's milk. The butter is necessary in the metamorphosis of tissue, it is especially necessary in the rapid growth of the infant.

The sugar of the milk serves a purpose something similar to fat. It is a heat producer and facilitates digestion and nutrition.

The soluble salts play an important part in the digestion of milk. First in importance is common salt; this is decomposed by the glands of the stomach into sodæ and hydrochloric acid, the latter being the most important ingredient in the gastric juice (Jacobi). When it has fulfilled its office in the stomach it passes into the intestines and combines with the sodæ, forming chloride of sodium aqui, and mixing with the colloid contents of the bowel facilitates the passage through animal membrane. By means of its crystaloidal properties it assists in tissue building and decomposition. If there is a deficiency digestion and metamorphosis will be slow, and constipation will probably exist, but if there is an excess the changes will be too rapid, and the result will be diarrhea. Jacobi relates a case where the mother's milk contained .8 per cent. of salt instead of the normal quantity. The baby nearly died of inanition and its attendant diarrhea. He was only saved by the substitution of a wet nurse. All of the other mineral salts aid in diffusion. First in importance after salt are the alkaline earthy phosphates of sodæ potassæ, magnesia and lime. These, as has been stated, are useful owing to their crystaloid properties as also necessary in tissue building. It is the absence or deficiency of these salts that predispose to rickets. This may be due either to the character of the food or to mal-assimilation.

Infant food in order to conform to nature's plan should be 89 per cent. water, nearly 4 per cent. caseine and nitrogenous matter, 4⅓ per cent. sugar, 13-100 of one per cent. soluble salts, and 2⅔ per cent. of butter.

Food in passing through a healthy alimentary canal is digested, that is certain chemical and mechanical changes take place so as to facilitate osmosis.

When the child's food is received into the mouth, the conditions are different from what is found in the adult. There are no teeth, and the salivary glands, parotids, submaxillaries and sublinguals are in an inactive state, so there is no saliva, or next to none.

Saliva is necessary for changing starch into sugar. Milk has none, so saliva is not necessary in infantile digestion. This hint tells us that starchy and farinaceous materials should be avoided as indigestible. Saliva soon begins to be developed in the infant and what is formed has the same properties as adult saliva, but the quantity is small. It does not begin to form in any considerable quantity before the child is 3 or 4 months old. At this period it would appear to be physiological

to allow the child some starchy food, or if it was necessary to feed the child, starchy food would probably be digested. Early in infant life starch will be only an irritant, producing constipation or diarrhea, as the case may be. In the stomach digestion proper begins; the caseine is acidulated and coagulated by the free hydrochloric acid which in turn is redissolved by the gastric juice and prepared for absorption. The baby's stomach is relatively smaller than the adult stomach and differently situated on account of the large size of the liver. It is said to be like a dog's stomach. It further resembles a dog's stomach on account of the readiness with which emesis occurs.

Although the infant's stomach is small, it is more important to digestion than is the adult stomach. In the adult, digestion begins in the mouth and continues through the small intestines, while in the infant it begins in the stomach and is nearly finished there. Sugar being a crystalloid like salt and the other soluble salts, is readily absorbed and facilitates absorption. In speaking of sugar in this connection we mean grape sugar. Cane sugar has to be acted upon by the saliva or pancreatic fluids, and converted into grape sugar before it is available. Cane sugar, therefore, should not be fed to young children for the same reason that starch is improper. The fat or butter is in a state of natural emulsion, and is readily utilized without the aid of the pancreatic fluid. Being mixed with the albuminous portion, it makes that more easily digested.

In seeking for artificial food we must select from sources most accessible. Cow's milk is the most easily obtained and most generally used of all the substitutes, and properly prepared is the best. It contains an excess of caseine and butter, and deficiency of water, hence it is necessary to add water pretty freely so as to make it more soluble. It is also deficient in sugar and salt; these have to be added. In the cow's milk we have the elements of possible indigestion that we are all familiar with. The excess of caseine and butter. The caseine even after water is added, coagulates more firmly than in human milk, and requres more gastric juice and time to dissolve it. The butter is a source of possible trouble by being in excess. Digestion being prolonged, butyric acid is developed, which further hardens the coagula and complicates the process.

In viewing this subject from a theoretical standpoint, it would appear to be an easy thing to sufficiently imitate the mother's milk to furnish the infant with the food necessary. But, as all know, the practical difficulty to be encountered is very great. The ingredients from which to prepare infants' food should be easily obtained everywhere, simple and easy of preparation. We find all the conditions above specified in wheat, barley and oats. They can be obtained anywhere, simple in character and easy of preparation. All of these preparations have starch, which is objectionable. Wheat and barley are deficient in fat, while oatmeal has an excess of fat. By a judicious use of cow's milk in connection with decoctions of

the above cereals, keeping the mother's milk as a standard, a food can be readily prepared, that physiologically is all that is required, but as stated above, and as all know, the difficulty would be very great.

DISCUSSION.

Dr. Trush said he considered the subject just presented one of very great practical importance, and he regretted that the essayist did not enter more minutely into the subject of the preparation of infant food, for this was undoubtedly the point of chief clinical interest in this connection. Like other practitioners he had now and then met with cases where the mother's milk did not agree with the infant, as evidenced by a persistence of various symptoms of indigestion, and the disappearance of these on a change of diet. He thought the infant's condition of health and well-being, other things being equal, was a better guide as to the quality of the mother's milk than any chemical or microscopical examination could possibly be. There were, unquestionably, depraved and deleterious conditions of this fluid which would completely elude detection by these means. Besides, the busy practitioner generally had neither time nor inclination, even if possessed of the necessary skill and facilities, to push such investigations to the final conclusion. For himself, he had to confess that, beyond examining microscopically, taking the reaction, and observing the proportion of cream, he was not in the habit of going into these investigations. There was probably not much diversity of opinion among the profession, respecting the best substitute for mother's milk, when from any cause whatsoever the latter failed. Cow's milk was undoubtedly this substitute; but though true as a general rule it was liable to a great many exceptions. Sometimes the little patient's digestive organs were so deranged and enfeebled, when the substitute was first offered, that the milk could not be digested at all, no matter how good its quality or how excellent its mode of preparation. More frequently it was impossible to procure a pure and good quality of cow's milk, and then we were forced to fall back upon some one of the various other substitutes for mother's milk. If cow's milk was employed, it was always requisite in the case of young infants to modify its composition, and in the manner indicated by the essayist. All this however failed to rectify the one great defect in cow's milk for infant's food as compared with human milk, viz, the firm coagulation of its caseine under the influence of gastric juice, etc. The feeble digestive powers of the infant were totally inadequate to the task of dissolving this solid mass, which hence occasioned distress, and still further impairment of nutrition. To obviate this difficulty a variety of expedients had been proposed. Thus, as is well known, Meigs recommends the addition to cow's milk of a little starch to render the curd more flocculent. Precipitating the caseine with rennet and then thoroughly disintegratiug this product, had been highly spoken for the purpose in question. Recently the peptonizing process, with ext. pancreatis, had been prominently brought

before the profession, and so far as his experience went, he certainly had obtained better results from cow's milk prepared in this manner, i.e., peptonizing it with ext. pancreatis, than by any other mode of preparation. The main objection to peptonized milk was its bitter taste. This was avoided to a great extent by raising the temperature of the milk to the boiling point, within half or three quarters of an hour after the commencement of the peptonizing process. The very considerable amount of labor and care necessary to the production by this method of a good palatable milk-food was another objection against it. Not that there was often any direct objection to the procedure on the score of labor involved, the objection rather cropped out indirectly, i.e., he had found, despite the most explicit directions, that the process was often carried on in a hurried, careless way, resulting of course in a product more indigestible than the original milk. For this and other reasons, cow's milk had to be abandoned altogether at times and other substitutes employed. Among them none had done better in his hands than Nestle's infant food. It did not agree with all children, even if readily taken, but some would not take it at all, while others could only take it for a short time, an insuperable loathing of the food being soon engendered.

Dr. Stevens said his experience was very much the same as that of Dr. Trush. He always added lime-water to cow's milk, but frequently found infants unable to digest it even then. He had used condensed milk with excellent results, and thought it preferable to cow's milk because of its greater uniformity.

Dr. Haight thought that treating the milk with rennet might overcome the difficulty mentioned by Dr. Trush, or by the preparation known as "junket," which is a very palatable dessert, and seems entirely free from caseine. Junket is made from an alcoholic extract of the fourth stomach of the calf added to milk.

Dr. Cleveland asked if that, after all, was not simply peptonizing the milk.

Dr. Haight thought not. We escape the bitter taste which almost invariably accompanies the milk treated with pancreatine. He had never tried this plan, as the idea had only just suggested itself to him while listening to Dr. Trush, but it seemed very feasible. He considered the condensed milk a most valuable preparation. He had noticed at various Southern resorts that nearly all the children there were fed upon this artificial food, and seemed to thrive.

Dr. Gustav Zinke said that a subject of greater importance could not have been brought before the Society. He had no doubt that when the mother could not produce milk for her child, cow's milk is the best substitute. The great disadvantage is that we have no dairy kept for the purpose of infant feeding. Every dairy is carried on according to its own peculiar system, and the object of the dairymen is too often if not always,

a great quantity rather than a good quality of milk. How stintingly cows are kept in this city, and how poorly and on what those are fed which are kept upon our so-called dairy farms, every one knows. If we had dairies for the special purpose of furnishing milk to infants and to the sick, managed as they are in Dresden and in some other German cities, where every possible attention is paid to the health and the food of the animals, where the stable is so constructed as to admit of thorough ventilation and ready cleanliness at all seasons of the year, where systematic feeding and bodily exercise have become a perfectly successful art, he believes we should almost invariably find this milk the best substitute for that of the mother. When good cow's milk cannot be had he agrees with Dr. Haight that condensed milk is the best artificial food. He had used it in his own family with excellent results. Nestle's food takes a place in the front rank, although many children refuse it, and with many others it does not act well.

Quite a number of cases of so-called summer diarrhœa prove intractable, however, not because of the kind of food alone, but by reason of the ill way in which the child is kept, respecting manner of dress and cleanliness and the locality in which it lives. Even with every facility for administering to the child's wants there is often a lack of intelligence, or even of willingness to follow the directions. Among the unwilling we find those mothers and nurses who are naturally lazy and dirty. Eliminating all these difficulties, however, there are yet instances in which the child may not thrive until a change is made from city to country, where it gets well, and strange as it may seem, on the same food it received while in the city.

When called to these cases his rule is to cleanse the intestinal tract with a proportionate dose of castor oil and paregoric—say a teaspoonful of the former with five drops of the latter. Then, if he sees that the mother's milk is not of the proper quality, and that it can not be rendered better, he gives cow's milk, either pure or diluted, according to the age of the patient, and adds small quantities of salt and sugar, sufficient to make it more palatable. Condensed milk and Nestles food are his next, if good cow's milk cannot be obtained. He sometimes peptonizes the milk, or occasionally gives a grain of pancretine with two of bicarbonate of soda immediately after nursing or feeding, especially if the child vomits cheesy masses. Where there is restlessness, with but little or no elevation of temperature (if any, and which will be relieved by vomiting), he has found excellent results from this treatment. In nearly all these cases the mucous membrane of the stomach and intestines is more or less irritated and inflamed from the presence of undigested food, be it milk or something else, hence the digestive tract must be cleaned first, as gently as possible; next, absolute rest followed by the proper diet, and then such drugs as may aid digestion, allay inflammation, relieve pain and produce rest,

When the skin is hot and dry, hot sponge baths two or three times a day renders the patient very comfortable. Covering the abdomen with flannel protects the bowels against cold draughts to which the patient may be subjected.

Dr. Trush said he agreed perfectly with the previous speaker that we should find cow's milk, pure, and without any preparation to disagree with infants far less frequently if cows were properly housed and fed, in short, if we had such special dairies as those mentioned as being in operation in various parts of Germany. He (Dr. Trush) thought the reason why the condensed Swiss milk often agreed better with infants than fresh cow's milk lay in this same fact, viz.: it was the product af a better quality of milk than we were ordinarily able to procure in this and other large cities.

The addition of lime water to cow's milk was with him also a frequent prescription, and he had often seen good results from such admixture. He was in the habit of ordering for young infants a compound like the following, viz.: 3 parts of fresh cow's milk, 2 parts of barley water (a strong decoction of barley) and 1 part of lime water, the child to have about 4 oz. of the mixture every two or three hours. This preparation often agreed admirably, and was well liked.

Dr. Geo. E. Jones said that he had had five or six cases under his care the past summer, in all of which, for various causes he had been obliged to resort to artificial food. In one of the cases the trouble had existed from the first, and it was three or four months before he met with success in the management of it. The child was sent to the country and put upon cow's milk, and in a few weeks it came back to the city in magnificent condition, but with a return to artificial feeding there was a renewal of the old trouble. It was found in this case that even in the city the child fared best on cow's milk. Another child in the same family refused to swallow any food offered to it. Injections of milk into the rectum were made, but it lived but a short time.

He had made a trial of nearly all the artificial foods in the market, but had as a general thing found condensed milk the most reliable. He had noticed one peculiarity following its use, and that was an eruption generally diffused over the body.

Dr. Cleveland, in closing the discussion, remarked that while the members of the Society might differ in the minutiæ of infant diet, in the main they were all agreed. The mother's milk contains all the ingredients necessary to the maintenance of the child, and so does the cow's milk.

There is too much caseine in the latter, which when coagulated forms a hard, indigestible mass. This may in a great measure be avoided by adding water, oatmeal, barley, etc.

One great difficulty in the management of the diet of infants is the lack of judgment on the part of the nurse. Every time the child cries it is

supposed to want food, when often it cries because it has had too much food.

We can not be very positive in our recommendations of artificial food. What may answer well with one child may be found to totally disagree with another. He thought it very important to impress on the mind of the nurse the necessity of offering the child water at certain intervals. It helped to prevent the formation of hard masses of caseine, and the digestive juices acted better in its presence, when given in moderate quantities.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting Thursday, December 4, 1884.

The President, R. A. CLEEMAN, M.D., in the Chair.

OVARIAN TUMOR.

DR. DRYSDALE presented a polycystic ovarian tumor which he had removed that morning. He had first seen the patient with Dr. C. R. Prall, May 5th, 1884. She was a married lady, fifty years of age, pale, thin and delicate looking. She had had eight children, the youngest of which was then sixteen years old. With some trifling exceptions her menstruation had been perfectly natural until two months before; since then she had had a constant and sometimes profuse discharge of blood from the vagina, which still continued. She first discovered the tumor in March, 1884.

On examination Dr. Drysdale found a semi-solid, globular tumor, occupying the lower part of the abdomen and reaching nearly to the umbilicus. It was freely movable, did not fluctuate, but was elastic and a little tender to pressure. Vaginal examination revealed a lacerated cervix. The sound entered the uterus two and a half inches, taking a direction to the right of the tumor. On deep pressure the end of the sound could be felt at the lower part of the right border of the mass. While the sound was in the uterus the tumor could be moved freely without affecting it. Dr. Drysdale diagnosticated a multilocular ovarian tumor.

By the fifth of June, one month later it reached nearly to the ensiform cartilage. From this time it increased rapidly in size, and when it was removed filled the abdomen, pressing the lower ribs outwards. It proved to be a multilocular tumor of the left ovary.

His object in bringing it before the society was to obtain an opinion from the members as to the cause of a phenomenon which was observed in the early stage of the growth. When the patient first noticed the enlargement, she found that when she would lie on her right side, the tumor, as if lighter than the surrounding parts would ascend to the left, and when on her left side, would rise to the right. She informed Dr. Prall of this and he naturally supposed she was mistaken, but a careful examination of the tumor while she changed her position verified her assertion. As

the mass increased in size this peculiar change of position ceased, and when the abdomen was opened nothing could be found to account for the singular behavior of the growth.

Dr. Parvin inquired about the length of the pedicle and the weight of the tumor.

Dr. Da Costa has a case under observation in which the condition of great mobility is present.

Dr. Drysdale replied that the pedicle was extremely short. The tumor weighed thirty-five pounds and was multilocular in character. At the time of its removal he could not determine any fluctuation. Every parovarian cyst is movable in its early stages. He intended to call attention to the peculiar and, to him, unaccountable motion of this particular cyst.

Dr. Chas. Meigs Wilson presented the histories of three cases in which the Hydrochlorate of Cocaine had been used with the hope of obtaining local analgesia, and reported negative results.

Malignant disease of Ovaries, Cystic.

Dr. D. Longaker exibited the specimens with the following history. The subject from whom this specimen was removed was a German woman 63 years old. She had been married the last 27 years of her life, and was sterile. During the last five months she was under the care of Dr. Jas. S. Gibb of this city, at whose request I first saw her, and by whose kindness I am enabled to report the case. The menopause was established at fifty-three, ten years ago. The patient had always enjoyed fair health, but four years ago she again began to have a bloody discharge from the vagina. For this she consulted a doctor, and was soon well again. The date of the onset of her last illness was indefinite. It was insidious and the particular symptom for which she desired relief was inability to micturate, this was found to be due to suppression of the secretion of urine, as the bladder was empty. There was also decided interferance with nutrition. Her appetite and strength failed rapidly. The urine was found to contain a very small amount of albumen. She had occasional nausea, bilious vomiting and diarrhœa. She suffered with pain in the left side of the abdomen. On examination the doctor discovered a hard tumor, nodulated, to the left of the uterus, projecting upwards into the left inguinal region, it was adherent and but slightly movable. She was first seen by me on October 6th. At this time she was in bed, suffered from orthopnœa, and was unable to rest or lie down. Her abdominal cavity was greatly distended by a fluid which had accumulated rapidly in the previous three or four weeks. Edema of the ankles had been noticed a few days before. Her general appearance was decidedly anemic and cachectic. The abdomen was very tender to palpation, especially over the left inguinal and hypogastric regions. The flanks were bulging, and were flat on percussion. The tumor could be indistinctly outlined, immo-

bile, lying in contact with the left ilium, dipping down into the true pelvis behind and to the left of the uterus, and distinct from it. The cervix had undergone senile absorption, but from the os externum a small polypus was found hanging in the vagina. October 7th she was tapped, a large bucketful of a brownish-red fluid, of specific gravity 1020, was removed. On microscopic examination it was found to contain blood and various corpuscles and epithelium (the ovarian cell was not found). It contained paralbumin.

A more careful examination now revealed a circumscribed, clearly defined, firm, nodulated growth in the region already indicated. It was found adherent, and could be only slightly displaced. It was of the size of a large fist. Palliative treatment was continued, but the patients condition gradually grew worse. There was again a slight accumulation of fluid in the abdominal cavity. She was subject to attacks of bilious vomiting and diarrhœa alternated with constipation. There was no apparent increase in the size of the tumor, and during this period pain was not a marked symptom. At no time was there acute suffering. She died of exhaustion November 27th. *Autopsy* on the next day by Dr. Gibb in the presence of, and assisted by Dr. E. W. Holmes and myself. The subcutaneous fat had been almost entirely absorbed. The parietal peritoneum was covered with lymph with numerous nodular elevations in various stages of organization. The intestines had contracted numerous adhesions.

The capsule of the liver was one-eighth inch thick. In the mesentery there were also deposits of lymph, some of which were more recent and less organized. The abdominal cavity cantained about two quarts of fluid, the same as that already described.

On the left side, extending two inches above the pelvic brim, was found a tumor apparently solid, but which on close examination was found to be a cystic. One of the largest of the cysts had ruptured; the opening was found at the posterior inferior portion of the growth. It was not recent. The capacity of the emptied cyst was about four ounces. The tumor dipped down into the true pelvis between the broad and utero-sacral ligaments of the left side. It was very adherent, and was removed with great difficulty. On incising and freely opening the cyst some coagulated fibrin was found, the remains of a hemorrhage into the cavity. When it was entirely removed it was found to arise from the left ovary. The oviduct was slightly dilated, and its fimbriated extremity was adherent to and spread out over the tumor.

On the right side, in the broad ligament there is a cyst slightly larger than the tumor; its contents are dark and very dense. It is very heavy. The cyst is surrounded by a dilated fallopian tube containing a clear transparent fluid of a bluish white hue. At its widest part it is an inch in diameter. Behind and below this cyst is found the right ovary; it is ad-

herent, flattened out, and seems continuous with it. The entire specimen was carefully dissected out as it is shown. From its rapidly fatal tendency with the macro-scopic appearance of the tumor there is very little doubt that a microscopic examination will reveal it to be malignant. Though perhaps possessing the greater pathological interest there are always a few points in the case which may concern us in regard to diagnosis and treatment. Study of the fluid at first caused a suspicion that it came from a cyst; its high specific gravity and the chemical tests to which it answered favored such a view. But this was entirely at variance with the history of rapid accumulation and absence of physical signs indicating the existence of a large cyst. It was apparent at the autopsy that an attempt at extirpation could only have hastened the fatal result. The specimen was referred to a committee for further investigation.

BRITISH MEDICAL ASSOCIATION.

Section of Obstetric Medicine.

Dr. George Elder read a paper on

A Case of Alexander's Operation of Shortening the Round Ligaments in a Case of Aggravated Prolapse and Retroflection.

The patient upon whom this operation was performed, has been known to me, since 1872, as an almost constant attendant at one or other of our local medical charities; and latterly, as spending most of her time either as an in-patient of one of these institutions, or at home, confined to bed.

Her history is briefly as follows. Prior to the age of 36 years, her health had always been good, and her ability to do her share of hard work unimpaired. Of this she had more than usually falls to the lot of working men's wives, as her husband's drinking habits compelled her to work enough for both.

Whilst lifting a heavy weight, she felt something in "her inside give way;" and, from that time to date of operation, her life had been spent as previously mentioned. In addition to the ordinary discomforts arising from a heavy retroflected and prolapsed uterus, aggravated by the effects of a badly ruptured perinæum, her most urgent complaint was one of incontinence of urine, amounting to constant dribbling when in the erect position. Her life was rendered miserable by this state of matters, and to remedy it many and varied forms of treatment were used.

For nine months at a stretch, she lay in bed in one of our hospitals; so that it cannot be said, at least, in this instance, that whatever good the operation has done, might fairly be attributed to the necessary lying in bed.

Hot-water injections, position, pessaries of all kinds, intra-uterine stems, medicated tampons, with the administration, internally, of appropriate remedies, were, singly and in combination, tried, with little permanent good effect; and it was when almost despairing of anything short of extirpation of the peccant organ being of any service, that she came under my notice again last February. My attention had been drawn to Alexander's operation by reading a paper by Mr. Lediard, of Carlisle, and the case under notice seemed a crucial one to test it.

On March 15th I cut down upon both round ligaments, finding no difficulty in reaching and separating them from surrounding tissue, and, whilst the uterus was held in normal position, pulled them out fully an inch and a half. Held in this position, the upper part of the ligaments was sutured to both sides of the wound; and, to prevent the possibility of their slipping, the loose portions were made tight by placing under them pieces of a gum-elastic catheter. Suturing other parts of the wound, and dressing with iodoform and absorbent cotton-wool, finished the operation.

The after-progress of the case, whilst in the hospital, was satisfactory. On April 5th, the wounds were all but healed, and she would then have been dismissed but for trouble arising from internal hæmorrhoids, which she was desirous of having removed. This I did, and she left for a convalescent home on May 16th.

On May 5th, the uterus was in good position, and braced up behind the symphysis.

From this date she got about in the ward, but, as a precautionary measure, a small ring-pessary was placed in position. Since her return from the convalescent home she has been engaged in all kinds of domestic work, completely relieved of her former sufferings.

On June 22nd, I found the uterus normal in position, and distinctly diminished in size.

Remarks.

There could not possibly be a better test-case than the one narrated; and, so far, the result has been almost better than might have been anticipated. By means of a simple operation, devoid of danger, Dr. Alexander has given the profession a new method of treating aggravated cases of prolapse and retroflection, which I hope they will try; and if, as I hope, time confirms its worth, then it will be one of the most valued means at our disposal for combating a class of cases amongst the most disappointing in our practice.

Discussion.

Mr Burton (Liverpool) had had considerable experience in Alexander's operation, having, since October last, performed it either thirteen or fourteen times. Eleven or twelve were cases of retroversion, one of pro-

lapsus with cystocele in a young virgin, one of complete prolapsus in an elderly woman. From his observation, he was inclined to look upon the operation as one, in certain cases, that offered better prospects to the patient than any other plan of treatment. He must express his thanks to Dr. Reid for the careful manner in which the subject had been brought before the Section. He thought his (Dr. Reid's) cases were very severe ones of long-standing retroversion, in which a morbid condition had been brought about by the displacement. That could not possibly be cured in a short time, and he had little doubt that Dr. Reid's cases would still continue to improve, as, the uterus being put right as to position, the chronic and painful hyperplasia must necessarily improve in time. In regard to his own cases, he was very well satisfied with the results obtained, and thought he had seen benefits that could not have been achieved by any other method in as short a time. He had commenced operating with the spray, but had now given it up, and his results in regard to healing by first intention were not any the worse for the change. His results on this point were different from those met with by Dr. Reid, as in almost all cases union was obtained by first intention (all the cases but three). He was careful to dry the wound, and close by suture as accurately as possible, then place on a layer of Gamgee tissue smeared with about an ounce of glycerine and bichloride of mercury (1 to 1,500), and over this a larger layer of the tissue dry. He then placed over this a sponge, for the sake of pressure, and to prevent the accumulation of serum; and over all an elastic bandage. The bandage was removed in forty-eight hours. In one case, secondary hæmorrhage came on, thirty-six hours after operation, from sloughing of the cut end of the ligament, that peeped out of the lower angle of the wound; and he now took the precaution of ligaturing the ligament before cutting off the "slack."

Dr. Alexander (Liverpool) desired to refer to several points in connection with the operation.

1. The ligaments were delicate structures, and difficult to find; and operations might fail, in the hands of inexperienced surgeons, from failing to catch them up properly or to separate them.

2. The ligaments must be made to adhere to the parts effectually before the patient was allowed to get up. Some had objected to the long time before the patients were allowed to get out of bed. This was intentional, not dependent on the state of the wound. To allow the patients to get up earlier would have destroyed the effects of the operation.

3. The operation was only designed to put the uterus into position, and to maintain it there, and did not promise a cure to nervous symptoms supposed to depend on the displacement. Cystoceles were not cured by it: and he was very sorry it would not cure that and all other diseases, as some seemed to think it should; but he never thought or said it would.

The *President* (*Dr. Godson*) considered that the papers read showed

clearly that the operation effected a cure of the displacement; but whether it did good beyond this was questionable, and it required further operations, and more time to elapse since their performance, in order to form a fair opinion regarding it. For his own part, he should wait until he was more satisfied of the benefit before he undertook the operation.

Dr. Lombe Atthill read the following paper:

The Treatment of Intra-Uterine Disease with Special Reference to the Best Mode of Making Applications to the Intra-Uterine Surface.

It is only within a comparatively recent period that any attempt has been made to treat affections of the mucous membrane lining the cavity of the uterus on the same principles as have been found efficacious in cases where that membrane is similarly affected when situated elsewhere in the body. Indeed, when such a course was first suggested, it was not alone opposed as being dangerous, but was, moreover, declared to be impossible, and ridiculed as absurd. Thus a writer in the *Edinburgh Medical Journal*, February, 1872, when reviewing the first edition of my "Lectures on the Diseases Peculiar to Women," in which I advocated the treatment of a granular condition of the intra-uterine mucous membrane by the application to it of fuming nitric acid, said, "Patients thoroughly treated in this manner will certainly have no more menorrhagia; they may be glad if they have even a uterine cavity left."

Yet, before this paragraph was penned, surgeons had been in the habit of applying nitric acid freely to the mucous membrane of the rectum, when in a granular state, with the most satisfactory results, and it was well known that it produced only a very superficial slough; therefore, to talk of there being "no cavity left," after it had been applied to the uterus, showed great ignorance on the part of the reviewer.

Notwithstanding the opposition offered to the direct application of therapeutic agents to the mucous membrane lining the cavity of the uterus when in a state of disease, this method of treatment is now carried out by nearly all gynecologists of any experience, and the discussion which followed on the reading of Dr. Playfair's paper at the meeting of the Association in Cork, may be considered as the public recognition by the profession of its value; but that discussion referred mainly to the advisability of intra-uterine medication, and the class of cases to which it was suitable; while, on the present occasion, I desire rather to discuss the relative value of the different therapeutic agents employed, and the best modes of applying them.

Though I am fully impressed with the value of intra-uterine medication, I have, nevertheless, hesitated to bring the subject forward for discussion, because I regret to find that, notwithstanding the warnings given by myself and others, some practitioners carry on this treatment without taking

sufficient care to select only suitable cases, and, moreover, omit to take precautions to prevent it from giving rise to troublesome symptoms, thereby inflicting serious injury on their patients, and bringing valuable remedies into disrepute. But though I shall, in this paper, advocate a still more extended use of the agents employed by gynecologists in the treatment of intra-uterine disease, I have, nevertheless, decided that it is better that the subject should be discussed; because, the more clearly the nature of the practice is understood, the more likelihood there will be that empiricism, in dealing with the class of cases under consideration, will become less frequent, and recklessness and carelessness will be checked; though I fear that in this, as all other branches of medicine, these can never be altogether prevented.

First of all, let me briefly point out what are the conditions which demand the direct application of medicinal agents to the intra-uterine surface. These may be briefly summed up thus: all affections of local origin giving rise to profuse menstruation, metrorrhagia, or uterine catarrh, or in which hyperesthesia of the nerves distributed over the inner surface of the uterus exist. Polypi, or tumors capable of being surgically treated, are excluded; but certain forms of recurrent growths, and of malignant diseases, are to be included in the category of affections capable of being benefitted by this method of treatment. By the term "of local origin," I mean all affections depending on an unhealthy condition of the uterine walls, and of the mucous membrane lining the cavity, or of that membrane alone. It is of much importance that this definition be borne in mind; for if it be not, and symptoms, dependent for their origin on affections of the ovaries or Fallopian tubes, be treated by applications made to the intra-uterine surface, serious injury may come to the patient.

Next, as to the agents to be employed: they may be increased so as to include a great number of caustic and astringent substances, but I find that they may be reduced with advantage to six or seven, namely, borax, iodine, carbolic acid. iodized phenol, nitric acid, iodoform, and solid nitrate of silver.

In analyzing my cases, I find that I employ carbolic acid in nearly 70 per cent. of all those requiring intra-uterine medication which come under my care; iodized phenol in about 15 per cent.; and nitric acid in hardly more than 3 per cent. In other words, in the great majority of cases, carbolic acid alone suffices to effect a cure, while those which require the application of the fuming nitric acid are very few; and, from what I shall have to say as to my more recent experience, it will be seen that the number of cases demanding its use will, in my opinion, most probably lessen.

Borax.—Borax is probably more rarely employed as an intra-uterine application than any of the agents I have mentioned. Still, it is not without its value; it is a mild astringent, and may be employed with ad-

vantage in cases in which uterine catarrh continues, after the application of more energetic agents has removed the urgent symptoms. I generally employ it in the form of a saturated solution in glycerine.

Iodine.—Next to borax, I consider iodine, in the form of either the tincture or the liniment, to be the least active of the substances I employ in the treatment of uterine disease; and, except to vary the routine, in very chronic cases, I seldom use it. I believe it to be, when applied to the uterus in either of the forms mentioned, nearly inert, and consequently of very little value. This, probably, is due to the fact the uterus seems to absorb very sparingly, if indeed at all, any agents applied to its inner surface. They seem to me to be of value chiefly in proportion to their power of acting as a caustic on the mucous membrane lining its cavity.

Carbolic Acid.—As already mentioned, I have employed carbolic acid in the treatment of quite two-thirds of the cases I have had under my care during the last ten years. Its value was first prominently brought into notice by Dr. W. S. Playfair, and I can confirm in almost every particular his statements. When the mucous membrane of the cavity of the uterus is painted over with a solution of carbolic acid, pain in the majority of cases is complained of; but this dies away rapidly, unless there be some inflammatory action present, or the os internum be contracted. Indeed, in many cases, carbolic acid relieves pain; and I have often remarked that, while the passage of the uterine sound through the os internum, or pressure of its point against the fundus, causes pain, the passage of the probe, armed with cotton saturated with a strong solution of carbolic acid, causes much less, or none at all. Carbolic acid is a mild caustic, causing a superficial slough to form, which peels off in about twenty-four hours. Therefore, to produce a permanent effect, it must be applied at short intervals of about three or four days, and its use continued for some weeks.

Iodized Phenol.—Iodized phenol, that is, pure iodine dissolved in carbolic acid by the aid of gentle heat, in the proportion of one part of iodine to three or four of carbolic acid, was introduced into practice by Dr. Battey, of Georgia, United States of America. He was so firm a believer in its virtues, that he extolled it as being capable of curing almost every known ailment, cancer included; I need hardly say that he took an exaggerated view of its value. Still, I have no hesitation in saying that it is one of the best, of all the agents employed by gynecologists in the treatment of disease of the cavity of the uterus. Moreover, its value is as yet far from being fully appreciated, or its powers ascertained, as I think will appear from what I shall have to say in reference to this agent.

Nitric Acid.—Nitric acid is the most active of all the agents we apply to the interior of the uterus. Nevertheless, it causes very little pain, and its direct effects pass off quickly, for it only makes a superficial slough,

which peels off in a day or two; still, it requires to be used with great care, and it is necessary to use special precautions to prevent its effects from extending beyond the intended limits. Thus it should never be applied to the cavity of the uterus unless the cervical canal be protected by the introduction of a tube of vulcanite or platinum; otherwise, contraction of the cervical canal, and possibly closure of the os uteri, may follow.

Iodoform.—Iodoform, in the shape of slender crayons made up with gum, which can be passed through the cervical canal into the cavity of the uterus, has been recommended in the treatment of some forms of painful menstruation. I have tried it in these cases, but without much benefit. It may, however, be used with advantage in cases in which a fetid discharge issues from the uterus, as is sometimes the case, in some forms of chronic endometritis occurring in elderly women.

Nitrate of Silver.—Sir James Simpson was the first to advocate the application of the solid nitrate of silver to the intra-uterine surface in cases of menorrhagia depending on imperfect involution of the uterus. He was in the habit of introducing ten grains into the cavity through a silver tube, called by him the uterine *porte-caustique*. Dissolving slowly, this cauterises, in a superficial manner, the mucous membrane lining the cavity and cervical canal; this peels off in a few days, and is discharged, generally with the escape of some blood. Nitrate of silver, thus used, often acts in a satisfactory manner, stimulating the uterus to contract, and rendering the mucous membrane much healthier; but it is a painful application, and sometimes gives rise to troublesome symptoms. For these reasons, I now seldom employ it, and I can obtain as good results by other safer methods. The solid nitrate of silver, used as I have just described, possesses one advantage, that it seldom has to be applied a second time, while most of the other agents require to be repeatedly used.

All the agents I have enumerated, excepting iodoform and the solid nitrate of silver, are usually applied by means of a probe, round the point of which a thin layer of cotton is rolled. This method has obviously two disadvantages: one, that it may fail to reach that portion of the uterine mucous membrane to which the caustic or astringent employed should specially be applied; the other, that a great part of the fluid with which the cotton is saturated is liable to be expressed out of the cotton as the probe traverses the cervical canal, or that the whole energy of the caustic may be expended on the walls of that canal. No doubt, both these objections are valid; still, as a matter of fact, if two or more probes be used, as should always be the case, both the objections will be obviated. That every portion of the mucous membrane lining the uterine cavity is really reached, is proved by the fact that a cure is, in suitable cases, nearly always effected by this treatment, if properly carried out; and, for

the same reason, we may infer that the energy of the agents employed is not expended on the cervical canal.

But cases are met with in which the method of swabbing out the cavity, as just described, is altogether insufficient, and in at least four distinct conditions it will be found necessary to adopt other means:

1. When the uterine mucous membrane is so vascular that the introduction of the probe is followed by hemorrhage sufficiently profuse to neutralize the effect of the caustic or astringent agent carried up by it.

2. When (as when chronic endometritis exists in a very imperfectly involuted uterus) the cavity is of large size.

3. When hemorrhage occurs as the result of vascular growths, which, if removed, are rapidly reproduced, and lastly,

4. When epithelioma affects the cavity of the uterus.

None of these conditions are of very common occurrence, but all of them, especially the first two, are met with frequently in practice; and, a few years ago, I treated them on the same principle—namely, by dilating the cervical canal, examining with the finger the condition of the intra-uterine surface, detaching with the curette the vascular growths, unhealthy mucous membrane, or diseased tissue, and then swabbing out the cavity with fuming nitric acid. This method, apparently so heroic, was, except in cases of epithelioma, generally successful, and, if carefully carried out, seldom gave rise to any unpleasant symptoms. But a case occurred in my practice, a few years ago, which compelled me to adopt other measures; and now the dilatation of the uterus, and the application of nitric acid to the cavity, is much less frequently practiced by me than formerly. The following are the leading outlines of this case.

In June, 1876, I was asked to see a lady, then aged about 62, who suffered from uterine hemorrhage. She had married young, and was the mother of a large family, and menstruation had ceased ten years previously to my seeing her; but, for some months past, frequent and copious discharges of blood occurred; she was seldom or ever free from a sanguineous discharge, and, consequently, had become weak and anæmic. On making a vaginal examination, I found the uterus to be enlarged and globular, but movable, and it was my opinion that it probably contained a polypus. Accordingly, I dilated the uterus; but, instead of a pedunculated tumor, I found the cavity filled with a vascular growth. This seemed to spring from a limited portion of the mucous surface, from which it was easily detached; but it broke down while being removed. On subsequent examination, it seemed to be composed mainly of blood-vessels, held together by cellular tissue.

A portion of the growth was examined microscopically by the late Dr. Reuben Harvey, who, while hesitating to give a decided opinion as to its nature, believed that most probably it was not malignant.

I scraped out the uterus thoroughly with a curette, and then applied fuming nitric acid freely. The patient made a rapid recovery, and in a short time went to the seaside to recruit. All went well for four months; but, at the end of that time, I was sent for in haste, and found my patient prostrated from the effects of a most alarming hemorrhage, which had suddenly occurred. I plugged the vagina, and the next day swabbed out the cavity with a strong solution of the perchloride of iron. Although this was repeated several times, the hemorrhage was not restrained; and, finally, was obliged to dilate the uterus again, when I found it filled, as before, by a vascular growth, similar in all respects to that which I had removed a few months previously.

This second operation was not so successful as the first. Slight attacks of hemorrhage frequently occurred; and, in the hope of preventing these from recurring, I repeatedly swabbed out the uterus with a strong solution of carbolic acid; but matters gradually became worse; the loss of blood became nearly continuous, and the patient was rapidly losing ground. With some difficulty I induced her to permit the uterus to be dilated once more, promising that this should be the last time. On this occasion, I determined that not a portion of the intra-uterine surface should escape; the curette was used most carefully and thoroughly; the strongest nitric acid was applied freely; and, finally, I packed the cavity with cotton, saturated in a strong solution of the perchloride of iron, and squeezed dry; this was left *in utero* for several days.

Notwithstanding all this, the hemorrhage returned after the lapse of about two months, and I seriously thought of recommending the extirpation of the uterus; but neither the patient nor her friends would hear of another operation of any kind, and I therefore decided to try the effect of injecting iodized phenol into the uterine cavity. Accordingly, I procured Braune's intra-uterine syringe, and injected a drachm of iodized phenol, diluted to one-half strength with alcohol. The cervical canal and os internum were quite patulous; nevertheless, the injection of this small quantity was followed by great pain and symptoms of collapse. Some little time elapsed before I felt that the patient was safe, but on no subsequent occasion did these symptoms recur.

From that time to the present, I have injected a drachm of the iodized phenol almost every week, the longest interval having been ten days, and this only on four or five occasions, with the following result: The size of the uterus has gradually increased; it is now as large as a cocoa-nut. The hemorrhage has never entirely ceased, twenty-four hours having hardly ever elapsed without more or less bleeding occurring; sometimes it is rather profuse, clots forming, which are expelled with pain. When there is no hemorrhage, a copious muco-purulent discharge is always present; but there never has once been an attack of actual hemorrhage, nor any need of special steps being taken to restrain the loss. The

patient is certainly weaker, and is slowly losing ground. She also suffers from time to time a good deal of pain, especially on the day after the injection is made; in other respects, her general condition is, on the whole, satisfactory. For the past twelve months, I have always had to introduce the uterine sound before I can get the tube of the syringe to pass through the cervical canal, and its introduction is always followed by some bleeding; if I allow more than a week to elapse without injecting the phenol, the difficulty is much increased, and the hemorrhage greater. I believe this to be due to the fact that the growth now fills the uterus, and would close the os internum were I not to inject the phenol regularly.

In this case, I have not effected a cure, but there is not the least doubt that, by the treatment I have adopted, a valuable life has been prolonged for several years; for, before this treatment was commenced, the hemorrhage was so profuse that it certainly would have terminated fatally in a very short time.

Another somewhat similar case came under my care in March, 1882. The patient was a widow, and I was requested to see her by her son, who was a surgeon. She was aged about 52, and had been for some months past weakened by constantly recurring attacks of hemorrhage. On examination, I found the uterus to be of the size of a small cocoa-nut, but quite movable.

In this case, also, I was of opinion that the hemorrhage was probably due to the presence of an intra-uterine polypus; but, on dilating the uterus, I found the cavity filled with a soft friable mass, which bled very freely. I scooped out an immense quantity of this growth with a curette, and swabbed out the cavity with the tincture of the perchloride of iron. I had a portion of the growth examined with the microscope, and it was pronounced to be malignant, and I warned her son that the growth would probably be speedily reproduced. In this case also I suggested the performance of Freund's operation for the extirpation of the uterus; but, this being objected to, I recommended the injection of the iodized phenol weekly. This advice has been acted on with satisfactory results. I saw this lady a year after I had dilated the uterus, and found her to be in fairly good health. The uterus was quite as large as, if not larger than, at the date of the operation, and slight attacks of hemorrhage occasionally occurred. A report to the same effect was made to me recently by her son; so that I think we may fairly assume that the injection of the iodized phenol will, in this case also, materially lengthen life, even if it fail to effect a cure.

These two cases, I think, clearly establish the value of the method I advocate, in all cases of recurrent growths, or of epithelioma attacking the mucous membrane of the cavity of the uterus, and few will object to its being carried out in such cases.

Encouraged by the results I obtained in these two cases, I have, during the last year or two, practiced it in others.

In May, 1882, I dilated the uterus of a lady who had for some months been suffering from uterine hemorrhage, and removed, with some difficulty, a large sessile growth from the uterine cavity; its attachment was so wide that it was impossible to remove every portion, though, after detaching as much as possible with the hand, the curette was used freely. The patient made a slow recovery, and the uterus remained as large as ever. Menstruation, too, continued to be very profuse; I therefore decided on injecting the iodized phenol; this did not cause any pain. As a proof of the size of the cavity, I may mention that on the first two occasions, none of the fluid injected flowed back through the os uteri into the speculum, as is usually the case; but on the third and subsequent occasions, it always did so, thus proving that the cavity had greatly contracted. I have this lady still under observation. Her condition, as far as the uterine surface is concerned is most satisfactory, and I have not found it necessary to carry out any local treatment for more than a year. In fact, she is cured.

I shall relate the particulars of one other case, because the superiority of the injection of iodized phenol to the treatment I formerly always practised, of dilating the uterus and applying nitric acid in cases of menorrhagia depending on subinvolution and an unhealthy condition of the intra-uterine mucous membrane is demonstrated by it.

A lady aged 45, the mother of several children, had ever since her last confinement, seven years ago, suffered from profuse menstruation; but in the autumn of 1881 the intervals between the periods became so short that she was only free from the discharge for three or four days, sometimes indeed, for hardly a day, during the entire month. In April, 1883, her medical attendant dilated the uterus, and not discovering any intra-uterine growth, used the curette, and applied nitric acid to the cavity of the uterus. After this she was better for a short time, but speedily lapsed into her former condition. On coming under my care, early in February last she stated that, for the previous six months she had never been free for even a single day from a hemorrhagic discharge; while at intervals of about eighteen days, corresponding as she supposed to the recurrence of the menstrual periods, the hemorrhage became alarming.

On examining her I found the uterus to be large. The sound penetrated to the depth of four inches, and its withdrawal was followed by sharp bleeding. I wished to dilate the uterus and to again explore its cavity, but the patient objected so strongly that I resolved to try the effect of injecting iodized phenol, and on Feb. 16th injected a drachm. This did not cause any pain, nor did any of the injected fluid return, thus showing that the cavity of the uterus was large, but it only checked the bleeding for one day. The second injection, made after the lapse of a week, had some-

what better effect, but the bleeding returned in two days. From February 23rd to April 18th I injected the phenol twice a week, with the most satisfactory results. After the fourth injection the hemorrhage entirely ceased, and shortly after this the fluid injected began to flow back into the speculum as soon as the tube of the syringe was withdrawn, proving that the uterus contracted considerably after April 18. I swabbed out the uterus once a week with the phenol, carried up on a probe in the usual manner. The patient is now perfectly well.

Lastly, I may state that I have on several occasions treated cases of hemorrhage depending on the presence of intramural and submucous fibroids, by the injection of the iodized phenol with the most satisfactory results.

From the foregoing it will be seen that iodized phenol, injected into the cavity of the uterus, has produced in my hands excellent results in the four classes of cases I have enumerated.

I claim for this method that it will obviate the necessity of dilating the uterus in a certain number of cases in which we have good grounds for believing that uterine hemorrhage depends on an unhealthy condition of the mucous membrane lining the cavity of the uterus, the result of imperfect involution, but it will not obviate that necessity when the diagnosis is doubtful; next, that it will prolong life for at least a considerable period, in cases where epithelioma attacks the interior as a primary disease, in which the only alternative is the performance of Freund's operation; thirdly, that it is a valuable supplementary operation in cases in which, after the removal of an intra-uterine growth, the hemorrhage continues, the mucous membrane lining the whole of the cavity being in an unhealthy condition; and lastly, that in many cases of uterine fibroids, it enables us to tide the patient over the danger, till the climacteric period being reached, life becomes safe. The tincture of iodine and a solution of the perchloride of iron have doubtless been used for the same purpose in the latter cases; but I believe the iodized phenol will prove far superior to either of these.

For safely carrying out the treatment by injecting phenol into the uterus it is essential to bear in mind, first, that the cervical canal must be patulous, so as to admit with ease the entrance of the tube of the syringe, and to permit the free egress of the fluid back into the speculum, should the cavity be too small to contain it; and secondly, that only a very small quantity must be injected at a time, and in order that an error in this respect be impossible, the syringe used should not be capable of holding more than a drachm of fluid. If these precautions be adopted, there will be no risk of unpleasant results following, but the neglect of them will certainly be followed by alarming symptoms.

To sum up: the conclusions at which I have arrived as the result of very extended experience in the use of the various agents recommended in the treatment of cases requiring intra-uterine medication are these.

1. Carbolic acid in the proportion of one part of spirit to two of the acid, is the safest and most generally useful of all of the agents employed.

2. Carbolic acid should always be applied by means of a probe, round the point of which a layer of cotton is rolled, the cotton being carried up to the fundus at least twice on each occasion that the applications are made, which should be on every third or fourth day till marked improvement takes place.

3. Carbolic acid should never be injected into the uterus, except when combined with iodine in the form known as iodized phenol.

4. In many cases iodized phenol may with advantage be applied by means of a probe.

5. In cases in which metrorrhagia or profuse menstruation occur, depending on an unhealthy condition of the intra-uterine mucous membrane, the cavity being dilated and the uterus enlarged, from half a drachm to a drachm of iodized phenol may be injected with great advantage.

6. In cases in which epithelioma attacks the mucous membrane of the cavity, the injection of iodized phenol promises better results than any other treatment.

7. The success likely to follow the injection of iodized phenol renders the dilatation of the uterus, the use of the curette, and the subsequent application of fuming nitric acid, less frequently necessary than has been the case hitherto.

8. The injection of iodized phenol requires to be carried out with so much care, that it should never be injected except by means of a syringe which will not contain more than one drachm.

9. The use of the fuming nitric acid should be limited, as a rule, to those cases in which dilatation has been practiced, and it should always be applied through a tube inserted into the cervix uteri for the purpose of protecting the sides of that canal from the action of the acid.

10. The pain produced by the application of any medical agent to the intra-uterine cavity, does not bear any relation to the activity of the agent, but is due to one of two causes; either to hyperesthesia, or to narrowness of the cervical canal, especially of the os internum.

John W. Byers, M.A., M.D., read the following paper:

The Treatment of Intra-Uterine Disease.

Although the topic of intra-uterine medication was very fully discussed at the meeting of the British Medical Association in Cork, when many of the leading gynecologists gave expression to their views, still, as there is some diversity of opinion, both as to the exact symptoms indicating intra-uterine disease as well as to the methods of applying medicines to its interior, it will be admitted, I think, that the officers of this section acted wisely in selecting as a subject for discussion the treatment of intrauterine disease, with special reference to the best mode of making applications to the intra-uterine surface.

Before, however, I make any remarks on the purely practical side of this subject, it will be necessary to give a brief account of the pathological conditions, as far as they are known, and the special symptoms present in those affections of the womb which we think to require the local application of remedies to the interior of its cavity.

Dismissing for the present such cases as are met with in the unmarried and the sterile, those cases that occur after pregnancy and abortion may be grouped under the general term, chronic endometritis. Now, thanks to the employment of the curette as an aid to diagnosis, and to the observations of Olhausen, De Sinéty and others, it is probable that, in chronic disease of the body of the uterus we have different pathological conditions, according to the parts of the mucous membrane specially affected. In one it would appear that the essence of the disease consists in hypertrophy of the glands of the uterus; in another the blood vessels are at fault, being much enlarged, while in a third set of cases a form of embryonic or granulation tissue is developed, resembling the state of matters seen in granular conjunctivitis.

In conditions such as we have described, the special symptoms are: *a*, alterations in the menstrual function, specially menorrhagia, and at times dysmenorrhœa; *b*, profuse leucorrhœa; *c*, on vaginal examination, the uterus feels soft, the os is often irregular, and the cervical canal, as a rule, patulous; *d*, on bimanual examination we find the uterus enlarged, frequently tender, and occasionally misplaced; *e*, by the speculum we often see signs of cervical catarrh, the os presenting a bright strawberry aspect; *f*, the sound, as a rule, goes further than the normal distance, and frequently gives rise to pain and a rusty discharge. In certain cases, using the probe after Sim's method, holding it lightly between the fingers, we have conveyed to us the feeling that the interior of the body of the uterus is roughened—a very valuable diagnostic sign.

Cases such as I have described date their origin from a previous confinement or abortion, the uterus on these occasions from some reason not having returned to its normal condition; and at the time when such cases come under the notice of the specialist, marked constitutional symptoms will have developed. Now, although constitutional treatment is of the greatest importance, and not to be neglected, still, it alone in these cases is not sufficient, and for success it will be necessary to treat the affected organ.

How is this to be done? or, in other words, how are we to apply remedies directly to the diseased part? We have the following plans:

1. Injecting remedies into the interior of the uterus.
2. The introduction of remedies in the solid form, which, as they melt, act on the parts.
3. The application of ointments.
4. Swabbing or painting the remedies over the interior of the uterus.

For many reasons I prefer the last method, but it is well for a time to make use of hot vaginal injections, and the application of glycerine pledgets, the patient being kept at rest, before commencing this plan.

In those cases in which hemorrhage is not a marked feature I prefer the application of carbolic acid, iodine, or iodized phenol, after Playfair's method. In cases in which the cervical canal is not sufficiently dilated, the preliminary use of a few of Duncan's dilators will facilitate the passage of the Playfair's probes, and instead of using Ferguson's speculum I would recommend the employment of the Sim's instrument and the drawing down of the uterus by means of the volsella. By this plan the medicated probes can at once be brought into contact with the interior of the uterine cavity. The week following menstruation is, I think, the best time for making applications.

In those cases in which hemorrhage is a marked feature, or in which any irregularities have been felt in the uterus, the employment of the curette will be found most valuable. In recommending the curette I must be understood as referring to that instrument used by our American brethren and known as "Thompson's copper wire curette without cutting edge" (which is very different from those forms of the instrument used by Recamier and Sims), and the use of which as a means of diagnosis and treatment Dr. Paul Mundé has brought prominently before the notice of the profession in these countries in a very able paper published in the *Edinburg Medical Journal*. *A priori*, one might imagine that its use would be attended with great risk, but in the hands of those who have employed it most frequently, such has not been the case. Thomas says: "I have employed it (curette) very largely in practice, and never yet have I had any accident follow its use in several hundred cases," and Mundé speaks of its "almost complete harmlessness." In those cases, then, of endometritis in which there is severe hemorrhage, the use of the curette, followed, if necessary, by the application of carbolic acid or iodine, will be found beneficial.

In the more severe cases, which have resisted other plans of treatment, we have still a remedy, nitric acid, the use of which was brought before our notice chiefly by Dr. Atthill. In employing this strong caustic in the interior of the uterus, I think if the precautions enumerated by the distinguished ex-master of the Rotunda Hospital be obeyed, the risks are slight. These precautions are:

1. To keep the patient in bed for at least twenty-four hours after applying the acid.

2. To apply it through a canula, so as to protect the cervical canal.

It is probable that many of the bad results which have followed the use of this remedy have arisen from a neglect of the above-mentioned precautions.

In the hands of those who by special training and clinical experience

have acquired a good knowledge of diseases of the uterus, the use of the curette and the application of remedies to the interior of the womb will be of great value; but it is probable that the indiscriminate use of these remedial plans of treatment might be followed by more harm than good, unless extreme caution be exercised in the selection of cases. I shall best convey my meaning by giving the following admirable hints from Dr. Playfair; he says: "Valuable as intra-uterine medication certainly is in suitable cases, it should never be rashly or indiscriminately employed; and the writer would strongly insist that before resorting to it we should satisfy ourselves that the uterus is likely to bear it with impunity. Whenever, therefore, there is much tenderness of the womb on being touched, even when the case is otherwise suitable, the writer deems it advisable to first remove the congested condition by rest, the local abstraction of blood, the use of glycerine-pledgets, hot water irrigations, and other appropriate means; and, above all, the evidence of any concomitant mischief or irritation, recent or of old standing, in the neighborhood of the uterus, as shown by tenderness on pressure in the region of the broad ligaments, or fixity of the uterus, should be an absolute contraindication.

DISCUSSION.

Dr. W. M. Reid (Glasgow) had used intra-uterine applications very largely, and had most confidence in carbolic acid. This failing, iodized phenol had been found most useful. In many cases fuming nitric acid became necessary, and Dr. Atthill's canula was the most useful in preserving the canal of the cervix. If more were necessary, then dilatation with the finger point—which he thought most safe and often sufficient—or a compound tangle tent, and clearing out the mucous membrane of the uterus with the finger nail or steel curette, was generally efficient. In regard to the kind of curette, he was convinced that a strong and tolerably sharp steel instrument, delicately used and guarded by the hand on the fundus externally, was the safest of all curettes. Septicæmia was to be avoided by the careful use of carbolic acid previously and subsequently to the operatian.

Dr. William Smyly (Dublin) considered that in the treatment of a diseased mucous membrane, with an enlarged uterus, the three chief objects in treatment were: first, to remove the diseased tissue; second, to produce contraction of the muscular tissue, and so, third, to convert the passive into an active congestion. The exact agent used should be chosen according to the nature of the case. He thought the ordinary steel curette better than the dull wire, which seemed little better than a toy. The chief point was the thorough removal of the diseased membrane. The membrane would be completely restored. Nitric acid or iodized phenol could be used in addition. For the dilatation of the uterus he preferred Hegar's dilators to the sea-tangle tents.

Dr. Kidd (Dublin) expressed his concurrence in what had been said as to the advantages of intra-uterine medication. He referred to the importance of cleansing the surface of the mucous membrane sufficiently before making applications. For this purpose he said he was in the habit of using pledgets of cotton, Duke's dull curette, and very often a sharp curette, such as that of Sims.' Intra-uterine injections he had used very constantly, and with very great benefit. He believed that the apprehensions formerly entertained as to the danger of intra-uterine injections was founded on their use when the os was not sufficiently open to allow the fluids to escape freely. If the os were open he used the injection at once; if not open, he dilated it as a preparatory measure. As to the mode of dilatating the uterus for intra-uterine operations, Dr. Kidd said that tho' he believed he was the first to use sea tangle in parallel pieces for the rapid dilatation of the uterus, he now used them only in cases of great rigidity. If the uterus were not very undilatable, he now used Hegar's dilators, with which the dilation might generally be effected in a few minutes, perhaps fifteen or thirty, and, he believed, proportionately more safely.

Dr. Murphy (Sunderland) preferred dilatation of the cervix by means of tupelo tents. He used a sharp curette, and then carefully cleansed the cavity by means of absorbent cotton wool, before swabbing it out with a solution of carbolic acid and iodine. The constitutional treatment consisted of rest in bed for two or three days, with the administration of ergot, and generally iron and quinine.

The President (Dr. Godson) mentioned that expensive probes, such as those known as Playfair's, were unnecessary, as a piece of ordinary copper wire, curved at one end for a handle, answered every purpose. A dozen or more could be used in one day, and next morning be placed in a fire in order to be cleansed of the cotton wool. He considered perchloride of iron with glycerine a valuable application. He doubted exceedingly whether the medicament reached the endometrium when applied in the ordinary way, and considered that the cervical canal only was as a rule affected by it. He spoke of the value of the curette before using the nitric acid. He was quite sure that injections into the uterine cavity should be undertaken with great care, having once seen death, and on several occasions, alarming symptoms, follow. He dwelt on the importance of constitutional treatment, and especially the administration of ergot of rye, while employing local means. He thought sea tangle tents should be used with great caution, as he had frequently seen disastrous consequences follow their employment.

SECTION OF MEDICINE.

Dr. John Strahan of Belfast, read the following paper on

CHOLERA INFANTUM AND THE HYDRENCEPHALOID CONDITION.

The object of the following remarks is to endeavor to call the attention of the profession to the importance of early and effectual treatment in cases of infantile cholera (prevalent here every summer), in order both to lessen the direct mortality from this disease, and to prevent, as far as possible, the development of a very fatal and tolerably frequent sequela, namely, the hydrencephaloid condition, or spurious hydrocephalus.

Cholera in children, which I look upon as an acute gastro-intestinal catarrh, characterized by vomiting, purging, and fever, sometimes amounting to hyperpyrexia, occurs chiefly in summer and autumn, but sometimes as early as April or May. It occurs at any age from two or three weeks to several years, but the first two years is the most usual period. It is very fatal here, more so in the United States, while Berlin, according to Lombard, surpasses the United States in "the frequency of the cholera of infants." This disease is one principal reason why white children have to be sent home from tropical climates, as in many places few children reach more than two or three years without an attack. In the worst climates, very few will survive this age if allowed to remain.

Bad hygiene is the great cause; damp, bad ventilation, air contaminated by sewer-emanations, dentition, and feeding infants on starchy artifical foods are fruitful, but they are much intensified by continuous high temperature. It begins either suddenly, with violent vomiting and purging, or as diarrhœa, with fever and restlessness; vomiting is suddenly added, and the disease is complete. The characteristic evacuations are so thin as to sink into the napkin, leaving only a green stain, and contain masses of milk-curd, or yellow masses of mucus turning green on exposure, or mucus stained with blood. Vomiting at the same time occurs of the contents of the stomach, and of almost anything swallowed, and also a quantity of seromucous. The vomited matters are acid, neutral, or even alkaline, according to the stage; acid at first, while the contents of the stomach are being rejected; afterwards, when the contents of the duodenum are pressed upwards, the fluid becomes neutral, then alkaline from bile and intestinal juices. The temperature rises from the first, the fever being of the remittent type, with the exacerbation in the evening, the range being from 102° to 104° Fahr. The pulse is rapid and feeble from 140 to 160. Death may occur from collapse or from carbonic acid poisoning in twenty-four hours, but usually the disease continues from two or three days to a week; presenting occasional remissions, or it passes into chronic diarrhœa from ileo-colitis, or the hydrencephaloid condition develops. This may occur even some days after all vomiting and purging have ceased.

This form of cerebral anæmia was first described by Dr. Marshall

Hall; then Dr. Abercrombie, and next Dr. Gooch, seem independently to have distinguished between this condition and congestion, or inflammation in the head, to which the symptoms were formerly attributed. When spurious hydrocephalus is coming on, all fever which existed previously in cholera infantum disappears, and the temperature becomes subnormal. There are irritability and fretfulness, with hoarse cry.

Then comes on the somnolent stage. The surface is cool, the skin pale, the pulse quick and weak, the eyes half closed, sunken, and surrounded by wide, dark circles; the fontanelle, if still unclosed, is concave, the head cool. The child ceases to take notice, the pupil is insensitive to light, the head is rolled frequently from side to side, the child gradually becomes more drowsy. If the case be neglected or improperly treated, coma gradually comes on, then convulsions and death.

Regarding the diagnosis of this state, all symptoms of inflammation or congestion are wanting, and the stupor or coma is not accompanied by squinting, inequality of the pupils, labored respiration, irregular pulse, or other symptoms of inflammation, except the drowsiness. An important point is to carefully ascertain the history of the case, also whether any sufficient cause for nervous exhaustion and cerebral anæmia exists, or has lately existed. In a very doubtful case, the use of the surface thermometer, to ascertain the temperature of the scalp, is desirable, as in this affection the temperature is rather below normal; but in any affection attended by hyperæmia, the reverse is the case.

The ophthalmoscope and otoscope will also show whether anæmia or hyperæmia exists. In cerebral anæmia, the retinal vessels and drum-membrane are pale and comparatively bloodless, whereas in hyperæmia the vessels are abnormally full, the tympanum red and injected. But usually the condition of the fontanelle, as well described by Sir T. Watson, will enable us to come to a proper diagnosis. In spurious hydrocephalus the fontanelle is concave and the surface of it depressed; whereas, if the symptoms depend on true hydrocephalus, congestion, or any lesion usually supposed to indicate depletion, the fontanelle is prominent, the surface convex, and probably pulsating strongly. The diagnosis is usually quite easy. The reason that mistakes are made is, that the probability of the affection just described being present is not kept sufficiently before the mind, or is left out of account altogether. I dwell on this point, because a mistake is usually disastrous to the patient. Purgatives, diuretics, opium, iodides, bromides, blisters, and depressants generally, will cause the symptoms to become more severe, and death will take place in a few days.

What I wish to direct attention to principally, however, is the prevention of the hydrencephaloid condition, by prompt and effectual treatment, whenever vomiting and purging (let us call the disease what we will) takes place actively in a young child. There is much difference of

opinion as to the pathological character of infantile cholera. Cheyne, Armstrong, and Copland have described it under the names of weaning brash, watery gripes, and choleric fever of children, respectively. Cruveilhier describes its symptoms as occurring in cases where, after death, gelatiniform softening of the stomach is found. This is probably *post mortem*, caused by the gastric juice. Trousseau, and other French authors, use the term infantile cholera; and Golding Bird, and, more recently, Dr. J. Lewis Smith of New York, have shown that the green diarrhœa does not depend on altered bile. Hence the term infantile cholera may be taken to embrace cases of English cholera, diarrhœa from indigestion, enteritis, colo-enteritis, and dysentery. But no matter what the pathological condition, if vomiting, or purging, or both, set in at all actively in a young child, they must be arrested at the earliest moment, if we wish to avoid collapse or severe head-symptoms.

As far as my experience goes, the usual routine treatment by opiates, brandy and astringents, too often only serves to increase the vomiting. The first and most important point is to stop the vomiting, as, while this goes on the patient cannot be nourished, nor can the diarrhœa be arrested. I have found one sixth of a minim of creasote and one half minim of tincture of iodine, in a drachm of camphor mixture, given every half hour, or repeated immediately for a few times if rejected, by far the most effectual prescription I have tried for vomiting; often it acts like a charm. At the same time, between the doses, I give one twelfth of a grain of calomel, or one twelfth of a grain of hydrargyrum cum creta, rubbed up with a few grains of sugar of milk or magnesia. Often this checks the diarrhœa in a few hours, when, of course, the interval between the doses is prolonged gradually. If the diarrhœa be very frequent, at the rate of forty or fifty discharges in a day, or if a few doses of the mercurial do not seem to produce some impression, I combine the hydrargyrum cum creta with ten grains of bismuth, and give it every two hours. When the violence of the attack is over, one sixth of a minim of creasote, with ten grains of bismuth, or with lime-water, or with chalk mixture, is continued, at greatly lengthening intervals, as long as any diarrhœa remains. But, should the case remain unimproved for twelve hours, I give an enema of a drop or two, according to age, of tincture of opium in a little starch. This restrains the diarrhœa powerfully. In severe cases I always stop the milk entirely, and feed on barley-water as thick as good milk, with fifteen to thirty drops of port wine frequently. This strong barley-water much resembles milk in its properties, *minus* the casein. Beef-tea is badly borne in such cases; besides, it is a mere stimulant, and not so effectual as wine. All infants' artificial foods, and other forms of starch are simply hurtful, as they pass through the alimentary canal, changed indeed, but not in the slightest degree digested; just as the casein appears as curds in the dejections. In fact, fermentation, and not chymification, is going on in the stomach and

duodenum. Lionel Beale tells us that in these cases, ordinary bacteria, (*e.g.*, the *bacillus termo*) often grow and multiply to an enormous extent in the casein clots. He says: Children may, under these circumstances, die of starvation, although but too liberally fed during the whole period of the illness; for the food merely serves to encourage the growth of bacteria, and it undergoes changes which interfere with its digestion and absorption." May not this explain the great efficiency of the plan of treatment described? Iodine and creasote are powerful antiseptics and antiferments. Creasote, besides, has a local anæsthetic action on the terminal filaments of the nerves in the mucous membrane. But the action of creasote does not extend with much power beyond the stomach, and so is insufficient to arrest the intestinal affection; here, however, the mercurial comes in, which is a powerful germicide and alterative, besides being, in small doses, perhaps the most powerful sedative to the gastro-intestinal mucous membrane, relieving vomiting and suspending purging, whether in the child or adult. I do not give opium, except as an enema in very urgent cases. The infant is easily narcotized, and the nervous system—an unknown morbid state of which bears a close relation to the disorder — is rendered so irritable by opium, that the symptoms are made worse by it.

A practical rule of great importance given by Dr. Bartholow is that "opium does harm in all gastro-intestinal maladies in which there is a deficiency in the proper secretion, or a suspension of the functions, of the liver and kidneys." On the other hand, bromide of potassium is often remarkably useful. It is useless, if not injurious, when bad food is the cause of the attack, and is useful just in the proportion in which irritation of the nervous system governs the gastro-enteric disorder. When the cause is atmospheric heat, or reflex irritation of the fifth nerve, as in teething, or cerebral congestion from these or other causes, it is very useful. Seven or eight grains should be given every hour or two. Small doses of camphor are also very useful in the same class of cases, and should be conbined with the bromide. Camphor is strongly recommended by Drs. Sydney Ringer and George Bird. If a case proceed so far that collapse is threatening, and any coldness of surface set in, the body-heat must be restored, and kept up in some way. Mustard-poultices, dry hot flannels, or hot baths from 99° to 104° F., as strongly urged by Steiner, combined with ten to twenty drops of brandy internally, will usually suffice. In such cases, the raw meat treatment, introduced by Weisse, of St. Petersburg, is invaluable. The meat may be well pounded in a mortar, and the juice or the mashed fibre itself made palatable by adding a little salt, and putting it into hot barley-water, administered frequently in small quantities. Of course, there is a danger of causing tape-worm, in the future, by this plan. After the acute stage is over, if the diarrhœa linger and give much trouble, or in cases charac-

terized by severe watery purging from the first, once the vomiting is controlled, nitrate of silver, oxide of zinc, or better, perhaps, one thirty-second of a grain of sulphate of copper every two, three, or four hours, may be given with great advantage; the sulphate of copper being a more powerful antiseptic than even corrosive sublimate. I usually, however, find the creasote and calomel so successful, that I have rarely occasion to resort to any other. In order to show that this plan is worthy of some consideration, I may point out that there is nothing original in it. Minute doses of calomel, or other mercurial, have been recommended by Ringer, and by Dr. Henry Hartshorne, of Philadelphia, in strong language.

As to the treatment of the hydrencephaloid condition, should it unfortunately set in, the diarrhea, if still present, must be stopped at once, if possible. But whether diarrhea be present or not, the child should have a hot poultice, faced with mustard, applied to the nape of the neck, also some very hot application to the cardiac region, on account of the powerfully stimulant effect of local heat on the heart. I then give about ten minims of aromatic spirit ammonia in camphor-mixture every two hours, and, at a different time, a drop or two, according to age, of Ashburton Thompson's tincture of phosphorus, in a little mucilage. If the digestion will permit it, good milk for food, not less than a pint and a half, or more than two pints in twenty-four hours, with frequent doses of ten to twenty minims of brandy. Should the digestion not permit of milk, then the raw meat plan finds its most useful application.

The nurse should be cautioned against raising the child into the upright position; the body-heat must be kept up by some means, or the child will die; plenty of hot flannels and a heated room usually are best, but the ventilation of the room should be very good. By such means, a wonderful improvement is often obvious in one or two days, and frequently recovery is complete at the end of three days. Should the hydrencephaloid condition come on without previous cholera or diarrhœa, as it sometimes does after weaning, from loss of blood, *e.g.*, by leeches, from improper use of cathartics, or, indeed, from exhaustion from any cause, even from improper treatment of the early stages of the complaint itself, the treatment is just the same; and whenever we see the surface of the fontanelle concave and depressed, we should put thoughts of cerebral congestion and tubercular meningitis out of our heads, and diligently employ every means of tone-giving, stimulation, and support.—*British Medical Journal.*

GOLD MEDAL AWARDS TO UNITED STATES PRODUCTS AT INTERNATIONAL HEALTH EXHIBITION, LONDON, 1884. — Among the food products exhibited at the International Health Exhibition, London, 1884, from the United States, were the *Beef Peptonoids* and *Maltine;* both of these preparations carried off the only Gold Medal and highest Award against numerous competitors in their respective classes. All food preparations were critically analyzed at this exhibition by a jury composed of the best chemists in the country.—*London Lancet.*

OBSTETRICAL SOCIETY OF LONDON.

Meeting of Nov. 5th, 1884.

DR. HENRY GERVIS, M.D., President, in the chair.

THE SEVERE OR SO-CALLED "UNCONTROLLABLE" VOMITING OF PREGNANCY.

Dr. Graily Hewitt read a paper on this subject. He said that, although many theories of the cause of the severe, or so-called uncontrollable vomiting of pregnancy had been put forward, the profession had not adopted any of them. The author's object was to investigate the question as to the influence of morbid conditions of the uterus giving rise to the disease. The facts and cases published and available for discussion of this subject, were arranged and tabulated and analyzed. The first series of cases was thirty-two in number, and included all cases the author had been able to collect in which the condition of the body of the uterus was noted in cases of severe vomiting of pregnancy. In a second series of cases, thirteen in number, the condition of the os and cervix uteri was particularly noted and described. These two series of cases constituted the clinical data available for use in the discussion of the question as to the influence of the condition of the uterus itself in causing the vomiting, and they included ten cases observed by Professor Horwitz of St. Petersburg, eight recorded by the author, seven by Dr. Copeman, two by Stoltz, two by Dance, and single cases recorded by other authorities. In the series of thirty-two cases there were twenty-eight cases of a very typical description, in which sickness of an intense degree of severity was present in the course of the first half of the pregnancy. In the majority of these cases the vomiting was so severe that the question of artificial abortion arose. In twenty-three of these cases, the uterus was in a state of decided anteversion or anteflexion—in all of these twenty-three cases there was impaction of the anteverted or anteflexed uterus in the pelvis. In one case the uterus anteverted slightly, but had been considerably anteflexed shortly before the pregnancy occurred. In four of the twenty-eight cases, the uterus was retroverted. It thus appeared that, out of the twenty-eight cases in question, the uterus was decidedly altered in shape and position in twenty-seven cases, and in the one case remaining was anteverted slightly. The cervix was thickened and unduly hard in three of the thirty-two cases, and much thickened in six cases. In the other series of thirteen cases, the cervix was described as very hard in four cases. In two cases of the series of the thirty-two, pus was found after death between the uterus and the decidua. Excessive sensitiveness of the uterus was present in most of Horwitz's cases, and in four of the five there was what Horwitz termed parenchymatous inflammation. The remarkable feature in the series of thirty-two cases was that, in all the cases where attempts were made to raise the uterus from its displaced position, and where this attempt was successful,

the vomiting ceased; whereas when the attempt failed, the vomiting continued, and the patient died, the exceptions being those in which artificial abortion was induced, and one in which abortion occurred naturally. In some of the cases artificial abortion was had recourse to as a primary procedure. Of the thirty-two cases eleven died, twenty recovered, in one the result is not known. The twenty recoveries included six after induction of artificial abortion, one natural abortion, seven after manipulative treatment and reduction of the uterus, six following personal treatment, rest, anti-inflammatory remedies, etc. The second series of thirteen cases were, with one exception, cases in which the new treatment suggested by Dr. Copeman was carried out, and in which no record was given as to the state of the body of the uterus. In these thirteen cases recovery took place. The author arrived at the following conclusions:

1. The cases in which the disease is due to some other organ than the uterus are so few in number (only one in the series of thirty-two) that they may be almost excluded from consideration.

2. In the large majority of cases the disease presents itself during the first half of pregnancy.

3. The evidence points to interference with normal expansion and growth of the gravid uterus as the condition of the production of this dangerous affection; this is most frequently brought about by or in connection with detention of the bulk of the uterus in the bony pelvis; in eighty-eight per cent the uterus being anteflexed or anteverted, and in twelve per cent, in a state of retroversion, the other conditions met with being hardness, resistance or unusual rigidity of the os and tissues of the cervix.

4. There appear to be two factors to be considered capable of interfering with the expansion of the uterus, (*a*) incarceration with flexion or version, (*b*)undue hardness and rigidity of os and cervix. These may be conjoined in a given case. It appeared to be borne out by the facts recorded that the incarceration was the more important of the two factors, as a rule at least. The facts seemed to point to the occurrence of embarassment in the expansion of the uterus very early in the pregnancy, such as might be expected to be occasioned by a previously flexed condition of the uterus or to a congested indurated state of the cervix, or to the two conditions combined. As the pregnancy advanced the congestion and swelling were intensified, and the resistance to expansion thus increased. It appeared probable that the particular cause of the sickness observed was the compression of the nerves, situated in the tissues which were especially subject to compression, namely, those around the cervix uteri, and especially those near the internal os. Dr. Copeman's success in the treatment of severe sickness, by dilating the internal os, was evidence in this direction. The importance of the flexion element had been denied, one principal objection being that sickness was not always present when the gravid uterus was flexed. But the case was the same in the non-gravid uterus; severe

sickness is not seldom due to flexion of the non-gravid uterus, while flexions are observed without sickness. Corroborations of the author's views was contained in Gehrung's recent paper. As a rule severe sickness was limited to the first half of pregnancy; in a very few cases it persisted longer. In these rare cases the cause might be rigidity of the tissues around the internal os persisting to a late period.

As regarded the treatment, the first indication was to secure the normal upward movement of the fundus uteri, to relieve, if possible, the incarceration of the uterus when present, and to prevent its occurrence by a properly arranged method of treatment. Absolute rest in the supine position, if anteversion were present, or on the face or side if retroversion were present, and the use of the knee-elbow position, would be required. These measures sufficed in many cases. If the uterus were fixed, gentle continuous pressure must be applied internally by the fingers, or by an air-ball, and the position maintained by a suitable pessary. These measures failing, Copeman's procedure of dilating the cervix should be employed. The last alternative, indicative of artificial abortion, would, it was believed, be rendered unnecessary if the other less severe measures were adopted sufficiently early.

Meeting of December 3, 1884.

Dr. Henry Gervis, President, in the Chair.

Specimens.

The following specimens were shown: Fibrous Tumor of Uterus removed by operation, Dr. Walter, Manchester; Two-headed Fetus, Dr. Horrocks; Fibrous Polypus, Dr. Godson; Ruptured Uterus, Dr. Champneys.

The Severe, or So-Called "Uncontrollable" Vomiting of Pregnancy.

The discussion on Dr. Graily Hewitt's paper on uncontrollable vomiting in pregnancy, adjourned from the November meeting, was resumed. The complete discussion is given below, as the observations made by Drs. Champneys and Galabin were not published in our report of the last meeting.

Dr. Champneys observed that many of Dr. Hewitt's anticipations of probable objections amounted to a declaration that, in spite of them all, he believed his own theory. Anteflexion or anteversion was found in 80 per cent. of all cases of early pregnancy. No attempt had been made to show the difference as regards vomiting between those whose uteri were "displaced," and the small minority in which they were not displaced. In the puerperal state anteversion and anteflexion were, at least, as common. Here was a large uterus, full of blood, anteflexed. But where was the vomiting? Again, it had been assumed that anteflexion was a portion of constraint. Here were these women lying on their backs, and

yet the uterus persistently anteflexed. It had never been proved that flexion, as flexion, ever disturbed the circulation of the uterus. If, however, one looked for a typical condition of flexion with pressure, it was found in the case of the retroverted gravid uterus. Here there was acute flexion with incarceration, either of which, on Dr. Hewitt's theory, was sufficient to cause vomiting. But where was the vomiting? Flexions had been proved to be very common in women whether well or ill, and association without very severe sifting proved nothing. The sudden cessation of vomiting recorded in some of the cases was a well known character of this vomiting, and was a precarious foundation of theories. The cases themselves required more details as to other possible causes of vomiting, such as albuminuria, jaundice, constipation, etc.

Dr. Galabin said that anteflexion was so common in early pregnancy that it was one of its best diagnostic signs. If it were the cause of vomiting, a pessary should cure the vomiting. Not one of the cases related was cured by this means. In backward displacement, relief followed reposition oftener in Dr. Hewitt's cases. Excessive vomiting was plainly only an extreme degree of the common vomiting of pregnancy. Tension must be an important element; witness the cessation of vomiting if the ovum died, and the excessive vomiting associated with hydatid mole. When the nervous system was hyperæsthetic, some morbid condition of the uterus, such as inflammation, induration, and grave displacement, such as retroversion, especially with incarceration, might produce excessive vomiting. Dr. Hewitt's theory did not explain the relief which he had several times seen follow dilatation of the cervix. The *modus operandi* of this procedure was hard to explain, but it might be connected with overstretching the nerves or rupturing some of the fibres about the os internum, which was a special seat of reflex action in labor. Incarceration of an anteverted or anteflexed uterus in early pregnancy was, to him, inconceivable apart from adhesions.

Dr. Barnes said that excessive vomiting in pregnancy was an instance of a physiological process passing the healthy boundary. The physiological basis was vascular and nervous tension peculiar to pregnancy. Vomiting was a safety-valve for nervous energy, and a safeguard against nervous seizures, such as eclampsia. Vomiting was a sort of physiological convulsion, and so was labor itself. After delivery, the tension ceased, and the liability to vomiting also. The exciting cause of the vomiting of pregnancy was usually in the uterus itself. The fact of the vomiting occurring as soon as the patient got up might be partly explained by increased flexion, partly, also by Bretonneau's theory of rapid distension of the uterine fibres under increased hydraulic pressure of the blood from the erect position, when the nervous centre was most excitable after rest, and the inhibitory force weakest from fasting. Since flexion remained for the rest of the day, however, flexion was not suffi-

cient. Vomiting later in pregnancy, which was the severer form, was kept up by starvation when once started; degraded blood increased the nervous irritability, and a vicious circle was formed. Albuminuria was a further evidence of toxemia, and hiccough was a form of convulsion. The vomiting seen in obstructive dysmenorrhea was analogous. The solution was not to be sought in any one factor, but nervous and vascular tension underlay the whole question.

Dr. Braxton Hicks said term "severe" was too vague, and he had never seen uncontrollable vomiting. The vomiting of pregnancy was so variable, that severe vomiting could not be considerable apart from the vomiting which might be called natural. When the pulse rose, emaciation commenced and the tongue became red, and the epigastrium tender, the case became urgent. He had never seen a case which had not yielded to remedies. With regard to the cause of vomiting, he agreed in many points with the previous speaker. Since Dr. Graily Hewitt's first paper he had examined all cases carefully, and he had never found any displacement or other local disturbance requiring mechanical treatment, nor had he ever failed to carry his patient safely to full time by the persistent use of remedies, especially opiates, given perseveringly, until some portion was retained by the stomach, and the system was calmed. The nerves of the mucous membrane of the stomach became irritated, and, after a time formed a center of disturbance, after the manner seen in other parts. By the administration of opiates by the mouth these nerve-ends were soothed, and consequent benefit secured.

Dr. Matthews Duncan knew no controllable vomiting of pregnancy. Medicines might do some good, and, perhaps, in some cases stop it. This he did not deny, but every one in practice knew that the vomiting was practically uncontrollable. He placed most reliance on atropia in the common variety of vomiting when excessive. The vomiting of pregnancy was, of course, stopped by emptying the uterus; that was not to control it nor really to stop it, that was to stop the pregnancy. He recognized, meantime, only two kinds of vomiting of pregnancy—the ordinary, natural, physiological, and the pernicious, uncontrollable—very dangerous. The former generally ceased about mid-pregnancy, but it might go on longer, be excessive, and induce emaciation. He was not quite certain that it ever ended fatally. The pernicious kind had been the subject of several recent memoirs, and was often fatal, rapidly fatal; it might begin at any period of pregnancy, and run its course slowly or more quickly; and, till our new knowledge of this kind was used in the investigation of all cases, he would not admit that a fatal result came from the ordinary or physiological kind, even though very severe. The pernicious kind was, no doubt, induced by pregnancy, and in it there was degeneration of organs, granular, fatty, or inflammatory. Cases often presented all the characters of icterus gravis, but they varied much

from the apparently simple cases of fatty degeneration of Hecker, Grainger Stewart, and others, to cases with symptoms more or less like those of Bright's disease or of yellow atrophy of the liver. They presented great prostration, often bleedings, often albuminuria more or less considerable, and often bile in the urine; sugar even had been observed. Such cases were not always fatal. He was disposed to regard this pernicious vomiting as certainly sometimes passing off after delivery, or perhaps even before it. It often led to the death of the fetus. He knew of no remedy but emptying the uterus.

Dr. Playfair said that all were apt to ride hobbies too hard; but, in this respect, Dr. Hewitt carried off the palm with ease. Indeed, with perfect good faith, he fitted his facts to suit his theory. In many of Howitz's cases, there were conditions which might quite account for the vomiting, such as perimetric adhesion, tumor, parenchymatous metritis, and other inflammatory conditions. All these Dr. Hewitt put aside as beside the question, and pointed to a slight deviation as the cause of the vomiting. The plainest of all facts about the vomiting of pregnancy was, that it was a neurosis of an intense degree, and only one of many neuroses accompanying pregnancy, and also associated with many forms of pelvic disease, such as inflammation and dysmenorrhea. All these differed only in degree from the vomiting of pregnancy. It was observed long ago by Dr. Bedford, of New York, that when there was no vomiting in pregnancy, some other and often more distressing form of neurosis—such as fainting and palpitation—was apt to be present. He therefore used to prescribe ipecacuanha as an emetic, and Dr. Playfair thought with much justice. In every case of intractable vomiting, an endeavor should be made to find out the special form of irritation. There was much to be said about the risk of the indiscriminate use of pessaries, of cervical dilatation during pregnancy; but, above all things, it was necessary to take a broad, scientific view of the whole question, and not to adhere to any exclusive theory, to the overlooking of the concomitant conditions.

Dr. Cleveland believed that the opinion of the Society was, on the whole, that the relation of the ascertainable condition of the uterus with, at all events, the less severe forms of vomiting could not be regarded in the light of cause and effect. Pregnancy disturbed the nervous equilibrium, and some women suffered from toothache, others from a grave neurosis (perhaps) of the pneumogastric nerve (vomiting). His special object was to point out the danger to life from prolonged and excessive vomiting in pregnancy, and to inquire what was the probable mode of death. Was it not failure of the heart's action? and if so, as one of the means of averting tendency to death, ought one not to lay stress on the necessity of rest in the recumbent position? He related a case of violent vomiting, in which death ensued on the patient's getting out of bed con-

trary to strict injunctions. On post mortem examination, the heart was found somewhat dilated, the liver large and congested; the uterus was pregnant about ten weeks.

Dr. Murray was not inclined to believe that, in pernicious vomiting, other organs were implicated; for, if so, why did the vomiting sometimes cease when the cervix was dilated? He had recently seen a case where the treatment stopped the vomiting for some days, but the patient died exhausted after expelling the uterine contents. There was no displacement of any kind. He thought that, after a fair trial of remedies, early interference with the pregnancy was best for the patient.

Dr. Wynn Williams did not find that flexion of the uterus, apart from adhesions, was associated with severe vomiting in pregnancy. Neurosis would account for great sickness. The only two deaths he had seen had been in alcoholic patients with liver-disease. In a case of severe vomiting, he had advised the passage of a sound, just within and around the os uteri, and the vomiting had ceased.

Dr. Bantock had never met with a case of uncontrollable vomiting. He thought Dr. Hewitt's theory too one-sided. The apparent state of anteflexion in early pregnancy was not properly flexion at all, but a condition produced by change in the size of the organ as it grew and expanded, the apparent flexion increasing as pregnancy advanced. Therefore, the ordinary teaching, that anteflexion was usual in early pregnancy, was utterly wrong. He thought the cause of vomiting was irritability of the uterine body, especially about the os internum. This was illustrated by the vomiting which accompanied artificial dilatation of the os internum (though not of the os externum), and also the normal dilatation of the os internum during labor. He could understand the possibility of increased tension of the fibres about the os internum in retroversion and retroflexion, but not in anteflexion, and still less in anteversion.

Dr. Heywood Smith said the uterus of early pregnancy was best described as antecurved. He had a case in which vomiting had persisted to within seven days of confinement; but there was probably a small fibroid, as well as ovaritis; and another was probably due to cervicitis. He thought that the fact that vomiting often began on waking, and before getting up, spoke against Dr. Barne's explanation, and in favor of the waking up of the uterus, and its renewed energy acting on an empty stomach.

Dr. Graily Hewitt said that the paper stated that there were two factors in the vomiting: 1, altered position or incarceration; 2, induration of tissue near the os internum. Dr. Galabin said that the therapeutic test—namely, by the elevation of the uterus—spoke against the theory; but in five out of twenty-seven typical cases the sickness was cured by elevating and replacing the uterus; and in two others it was at once relieved for a time, the uterus not being maintained in position.

Five other cases of severe sickness were cured by postural treatment, rest, and measures calculated to prevent impaction. Uterine sickness, apart from pregnancy, might even lead to vomiting of blood. He did not think the frequent occurrence of degeneration of organs in pregnancy proved. Dr. Playfair had made similar remarks to those made to-night as to "riding a hobby," some few years ago, at a discussion of a former paper of Dr. Hewitt's; but, a year or two later, he stated that he had changed his mind since reading Dr. Hewitt's book. He hoped for a similar revulsion of feeling in the present instance. With regard to the criticisms on his cases, he had collected all the illustrative cases he could find, whatever their import. Vomiting after the middle of pregnancy was probably due to continued distension and growth of the uterus, acting on the indurated tissues near the os internum.—*British Med. Journal.*

LIVERPOOL MEDICAL INSTITUTION.

The fourth ordinary meeting of the session was held on Thursday, November 20, 1884, Dr. Gee, President, in the chair.

Dr. Burton showed a

DERMOID OVARIAN CYST,

From a woman 41 years of age. The patient had noticed the tumor two years previous to her admission into the Hospital for Women on October 20th. The tumor was removed on the 27th. It consisted of two principal cysts, one containing several pints of chocolate-colored, soupy fluid, containing a large number of cholesterine crystals, and the other about eight ounces of liquid fat and a mass of hair rolled up in a ball. The fat quickly solidified on cooling. Nothing unusual about the operation. The patient quickly recovered.

Dr. Steele showed a

PAUCILOCULAR OVARIAN CYST.

The adhesions met with at the time of operation rendered the prognosis at the time doubtful and the specimen of interest.

Dr. Imlach showed specimens consisting of

UTERINE APPENDAGES REMOVED FROM TWENTY-ONE WOMEN

In the Hospital for Women. The specimens were too numerous for detail, or indeed, almost for any description in the time allotted for pathological specimens. He noted Dr. Fowler's autopsies, in which he considered that in a considerable number of cases disease of the uterine appendages played an important part in bringing about the fatal result. Of the cases operated upon only one could be called hysterical. All the others suffered pain and were unable to follow their employment. In one case pus was discharged into the cæcum. On removal of the appendages the opening in the cæcum was closed and the patient did well. In another case an escaped corpus luteum was found in the infimbriated ex-

tremity of the Fallopian tube. That the body was an escaped corpus luteum had been verified by two other pathologists to whom he had submitted the specimen.

Dr. Bernard related brief histories of four cases of

MEDIATE SYPHILITIC INFECTION IN GLASS BLOWERS.

The cases all presented themselves for treatment within the space of three months, the first in August of the present year, and they all worked under one roof. In every case the lips were the seats of sores and the submaxillary glands were enlarged, while the penis was free from disease and the inguinal glands were unaffected. The speaker then referred to Lancereaux's mention of the subject, and suggested that each workman should have and use his own blow-pipe, as was the case in France, that the possibility of such accidents might be avoided.

Dr. Glynn Whittle then read a paper on

THE PROPHYLACTIC TREATMENT OF POST-PARTUM HEMORRHAGE.

At the commencement he pointed out that the premonitory symptoms of impending danger had been but recently studied, and that formerly there was nothing but the history of previous flooding to put the medical attendant on his guard. There were several conditions that predisposed to post partum hemorrhage — want of muscular contractility, lessened power of coagulation of the blood, and accelerated circulation. Some years ago Dr. Ewing Whittle and M'Clintock had drawn attention to the peculiar character of the pains during labor. He thought too much stress had been laid on the character as described by these two writers. Chloroform was said by some to predispose to hemorrhage, and by others not to have that characteristic. He adopted the former view. Preventive treatment should be based on the state of the patient. Attention to the pulse was of paramount importance. Previous to labor open air exercise should be enjoined, and abstinence from stimulants. If there was any fear of hemorrhage during labor the membranes should be ruptured when the os was fully dilated or nearly so; this improves contraction. The water should then be allowed to drain off, and if necessary the head should be pushed back for the purpose. If the pulse was rapid the practitioner should be on the lookout. The fœtus should be extracted slowly, sudden emptying of the uterus favored the occurrence of hemorrhage. Adhesion of the uterus to the abdominal parietes or other parts might be a cause of hemorrhage, as in two cases reported by De Gorrequer Griffiths. He himself had met with two similar cases. Ergot was most useful, and the fear of its action on the child should not deter us from its use. This action could only be mechanical. To be of real use it should be given some time before the child was born. It was of little benefit if only employed after labor. This had been proved repeatedly in his own practice when he had arrived too late. The action did not begin till forty or fifty minutes after administration. The forceps were not so much service, as it

was not chiefly in tedious labor that flooding was likely to occur, but in case of atony of the womb.

In conclusion he would sum up as follows:—Notwithstanding what differences of opinion in matters of detail may exist, the conclusions of writers on this subject agree on all main points, which may be thus summed up:

First, that post partum hemorrhage has certain premonitory symptoms, and that these symptoms are to be found in the characteristic pains and in the condition of the circulation of the blood.

Secondly, that flooding can be averted by appropriate prophylactic measures, the preventive treatment consisting of rupturing the membranes, administering ergot of rye, extracting the fœtus slowly, and following down the uterus with the hand.

DISCUSSION.

Dr. Wallace said that Dr. Whittle's paper was so complete that little more was to be said. It seemed to be all summed up in his conclusions. In all the fatal cases he had known the hemorrhagic diathesis was apparent. Constitutional treatment was best in such cases and no remedy was better than the old tincture of the muriate of iron. In his experience fibroids do not predispose to hemorrhage.

Dr. A. F. Cameron said that hemorrhage might occur with contraction of the uterus, and there might be no contraction and no flooding. His practice was to follow the child down with the hand and inject ergotin after separating the child. He did not use the liquor ergotæ.

Dr. Bailey said the hemorrhagic diathesis should be treated through the whole of the pregnancy. Patients should be instructed as to the proper kind of food. Many deteriorated from want of nitrogenous food. Muriate of iron should also be given; if administered properly it had no effect in producing abortion. It was better to give ergot subcutaneously. In these cases there was often vomiting, and the stomach had very little power of absorption. The uterus would not contract if you gave chloroform.

Dr. Steele agreed with Dr. Whittle as to the premonitory symptoms. He thought the condition of the pulse resulted from shock. He had given ether lately, and found his experience had been different from what it was with chloroform; there was not the same tendency to flooding. It was wrong to give ergot before the birth of the child, as, if it acted, you called into play a *vis à tergo* over which you had no control; nor should it be given before the extraction of the placenta.

Dr. Joll said that if perchloride of iron were given it should be early. He preferred giving ergotine to the pharmacopœial extract, not subcutaneously but interstitially. He spoke favorably of Hamamelis virginica, as being better than ergot.

Dr. Davies could only recall one instance of what he could call real

post partum hemorrhage. He thought it was excessively rare. He always gave ergot before the birth of the child and never saw it do any harm.—*Med. Press and Circular.*

BORDER COUNTIES BRANCH.

October 14, 1884.

The President, J. S. Muir, M.D., in the Chair.

Permanganate of Potash in Puerperal Pyrexia.

Mr. T. B. Green read a paper on the use of permanganate of potash in the treatment of some forms of puerperal pyrexia. He believed that, in most cases, warm vaginal injections of diluted Condy's fluid, frequently repeated, were of great use, generally efficient in reducing temperature, and conducive to the speedy convalescence of the patient. He read notes of a case of puerperal scarlet fever of the anginous variety which was successfully treated by very frequent vaginal injections of warm and dilute Condy's fluid, combined with the internal administration of one grain of permanganate of potash every two hours, stating that improvement began from the moment this treatment was adopted. The only cases of puerperal pyrexia which he had not found benefited by the vaginal injections, were pelvic cellulitis and decomposing shreds, or clots, in the uterus; in the latter case, the injections, if carried up into the uterus, with precautions, proved effectual.

Hydrorrhœa Gravidarum.

Dr. Macdougall read a paper on this subject, with a view of drawing attention to the fact that hydrorrhœa gravidarum was not an altogether rare condition, that it might occur in early pregnancy, as well as later, and that it was, at times, not easy of recognition. Reference was more directly made to those cases in all of which, owing to the loss of blood that occurred, and the consequent anæmia, interference became necessary, and premature labour was induced. All made, happily, good recoveries. Hegar's theory, as to the pathology of the condition, seemed to explain more satisfactorily than any other the phenomena which marked the disease. At the same time, in his valuable monograph on hydrorrhœa, in which treatment was very fully dealt with, no reference was made to the possibility of any cause for active interference arising in connection with this morbid state, as cases, when left alone, usually did quite well. The instances narrated, however, went to prove that, from time to time, nature might not be all-sufficient.

Congenital Diaphragmatic Hernia.

Dr. Lockie read a note of a case in which a deficiency of the diaphragm, allowing hernia, caused the death of a newly-born child, by preventing expansion of the lungs. In the left pleural cavity lay coils of intestine, small and large, including the cæcum and vermiform appendix, to a par-

tial extent, a large irregularly shaped spleen, and the left lung unexpanded. The heart and pericardium were situated behind and to the right of the sternum, the apex pointing downwards and to the right. The right lung was partially expanded. The left hinder part of the diaphragm was wanting to such an extent, that the large spleen could be pushed through the aperture into the abdomen.

USE OF THE SHARP SPOON IN CANCER OF THE LIP.

Dr. Lediard read a paper upon the application of the sharp spoon to limited cancers of the lip. Four cases were recited, in one of which there had been no return of the disease for two years; in another, eighteen months had elapsed before a growth appeared at another part of the lip. The advantages gained were less deformity, less bleeding, less operative detail, and the use of an anæsthetic avoided; whilst the immunity from return might perhaps prove to be on a par to that afforded by the knife.

—*British Medical Journal.*

Abstracts and Selections.

I. — OBSTETRIC.

Ovariotomy with Extensive Adhesions.—By Charles E. Steele, M.R.C.S. Hon. Assistant Surgeon Hospital for Women, Liverpool, in *Med. Press and Circular.*

Mrs. P., æt. 35, married eleven years, no children, two miscarriages, the last two years ago, applied to me at Hospital for Women on September 6, '84.

I found her the subject of an ovarian tumor, diagnosed as an uni- or pauci-locular cyst of the right ovary, adhesions being probably absent or not extensive. Operation was decided on, but the patient had reasons for delaying it, and in order to favor her condition for operation I waited till after the next menstruation. In the meantime she had a sharp attack of peritonitis, which delayed the operation still further and altered the appearance of the tumor, so that it was visibly paucilocular and adherent in front. I performed ovariotomy on Oct. 21st, assisted by Drs. T. B. Grimsdale, Robert Jones and McDougall, the latter gentleman administering ether. The adhesions in front were so extensive and firm that in separating them there was some risk of rupturing the cyst or tearing away patches of peritoneum from the abdominal wall. The omental adhesions were not so formidable, but very vascular and difficult to distinguish. The pelvic adhesions were unusually extensive; the attachments which bound the tumor to the pelvic fascia on each side and to the neighboring structures were thicker than the cyst wall itself. It was found impossible to separate them, after using as much force as was justifiable, and the condition of the patient, which approached that of collapse two or three times

during the operation, rendered further manipulation out of the question. The cyst was accordingly divided close to its attachment, and the edges of the small remaining portion thermo-cauterized, its lining membrane smeared with persulphate of iron to prevent re-secretion. The edges were then held up with several pairs of forceps and a stout silk ligature passed around and tied securely; the segment of the cyst which was left behind formed a long, narrow pedicle after it was constricted as just described. There was considerable general hemorrhage during the whole of the operation. A glass drainage tube was inserted into Douglas' pouch and the wound dressed with gutta percha tissue secured round the neck of the tube and pads of gauze secured over all with strapping.

The patient made a good recovery, though it seemed at first unreasonable to suppose that she would ever recover from the shock of the operation.

I allowed nothing but ice water and ice the first three days, and only arrow root the next three, a plan of treatment which agreed well with the patient, and which I have found beneficial in other abdominal sections. The temperature averaged 99° F. the first week, and rose the following week, a circumstance due to a stitch abscess in the abdominal wall; this abscess was allowed to drain freely, and washed out with carbolic lotion until it healed. The administration of antipyrin proved useful on more than one occasion. The first dose (half a drachm) reduced the temperature from 102·6° to 99° in one hour.

Knowlsley Thornton and others assert that, so far from adhesions proving a drawback in ovariotomy, cases in which they exist are found to do better on the whole than those in which they are absent. However true this may be, it cannot be denied that adhesions may exist to an extent sufficient to endanger the success of the operation, and the recovery of this patient, though an instance of good fortune, does not make me feel this to be any the less true. It seems probable that the explanation of frequent recovery in such cases lies in the fact that, unlike cases in which no adhesions exist, the peritoneum is covered with lymph and other exudations during the healing process, which renders it incapable of absorbing any septic fluid which may collect, and this seems to be borne out by the fact that such a large proportion of the fatal ovariotomies which do not succumb to the shock of the operation die of septicæmia.

The Use of Cold in Labor.—Dr. Grognot (Bull. Gen. de Therap.) recommends the use of cold to produce and increase labor pains. It is well known that to palpate the abdomen in a pregnant woman, the hands must be of approximately the same temperature with that of the skin of the patient, otherwise if too cold the disagreeable sensation will produce immediate contraction of the muscular walls of the abdomen and prevent a

proper examination. But, if persisted in, this may extend to the uterus itself, and give the sensation of the presence of a regular globular tumor, contracting, not from the pressure but from the effects of the cold. There are uteri which contract upon the slightest touch, but they are rare, and pressure generally produces no such effect. In consequence of these observations, Dr. Grognot uses a wash basin or bucket of fresh water, into which, when it is deemed desirable to provoke pains or to accelerate labor, he places his hands for one or two minutes, and then applies them over the abdomen, and as fully as possible over the region which covers the antero-superior surface of the uterus. In a few seconds the patient complains of a pain and the hands are removed. It is sufficient to use fresh water, as a greater degree of cold would not hasten contractions to any greater extent. To this may be added manual pressure and manipulation. It is generally not necessary to use this method more than ten or fifteen times. The following are his conclusions:

1. The application of cold provokes marked contractions during labor.
2. They are normal in their effects.
3. This method is without danger to the mother or child.
4. It can be used independently and without instruments.
5. It can be employed during all the stages of labor, for the expulsion of the fœtus and also for the removal of the placenta.—*Journal of American Medical Association.*

II.—GYNECIC.

On Massage in Gynecology.—A paper read by Dr. Prochownik (Hamburg), at the *Versammlung Deutscher Naturforscher und Aerzte*, at Magdeburg, September 19, 1884, and published in the *Manchester Medical Chronicle.*

While in some other countries, especially in France and Scandinavia, soon after the reintroduction of massage into therapeutics, there appeared a series of publications on its employment in gynecology, and discussions of the subject took place in various medical societies, among us the contributions to a knowledge of the subject have been few, and this is especially true with regard to clinical observations. Our newer manuals express themselves with reserve, and rest satisfied with merely a curt acknowledgement of the existence of the method.

There was no reason at first to regret the circumstance. The results of massage were certainly for a time exaggerated; the process soon fell into the hands of the humbler sort of practitioners and of quack specialists, and it must be frankly admitted that it was through such people that the process first found a footing in the field of gynecology. This circumstance did not altogether tend to beget confidence, and, when we remember that gynecologists have of late been reproached with too great diligence in

treatment, it is easy to explain why many who have employed massage have been cautious about publishing their results. But already the results of massage in surgery, and even in gynecology, in the hands of some of the operators by profession, have been so striking that the subject urgently challenges an experimental investigation.

To this challenge I respond, and inasmuch as I have for two and a quarter years somewhat freely employed massage in gynecology, I should like to-day to take the liberty of acquainting you with the results obtained in order to elicit from you, as representing the opinion of Germany, some opinion with regard to massage. Time compels me to be brief. I intend, therefore, to state my views and results in a number of exactly formulated and easily discussed propositions, retaining details and case histories for future publication.

1. The employment of massage in gynecological therapeutics aims at the acceleration of the absorption of pathological products, the stimulation of the circulation, the stretching of shrunken and cicatricial tissue, rarely the production of contraction. Parallel with these objects, the following diseased conditions come under consideration as the most suitable for treatment by massage, viz.: transudations, exudations, metritis, loss of tone, cicatricial stricture, and contractions with their resulting conditions, rarely neoplasms.

2. Massage should never be employed except when all other therapeutic agents have failed. Every course of treatment by massage is tedious, often lasting for months, and it is almost always painful. Consequently it is not only better before having recourse to massage to give a trial to other and simpler methods of treatment, but it is also more satisfactory because patients decide more readily to submit when other measures have failed. This rule may be readily set aside by others, but with me the more experience I have of massage the more decidedly does it become an axiom; for only in this way can we protect ourselves from disappointment and save the method from discredit. * * *

3. Another previous condition to the practice of massage is an exact differential diagnosis, the result of careful combined examination. * * * We must not hesitate to make an examination under anæsthetic in order to make the diagnosis clear and definite, and such a proceeding has repeatedly saved me from errors in diagnosis, especially in estimating the amount and the consistency of exudations. The process of differentiation is essentially lightened when the physician prescribes massage only for patients whom he has already had under treatment.

4. Gynecological massage divides itself into an external and an internal. External massage is very little used, but it is advisable in most courses of treatment to begin with it, if only to test the amount of sensibility. The circumscribed employment of external massage depends upon the fact

that only in a small number of patients is it possible by external manipulation to produce any effect upon the organs of the true pelvis, because every kind of massage requires a certain amount of resistance for its efficiency. The employment of massage as a test for sensitiveness is suitable for most patients, but not for all; there are women who are completely intolerant of internal measures, and who cannot bear external manipulation. The mode of applying external massage is almost exclusively by friction, a process concerning which it was well remarked by Mosengeil that it is easier to show than to describe. For gynecological purposes it may be conducted as follows: — The palm of the hand is laid flat and supported upon the center of the ilium, the rami of the pubis, the surface of the sacrum, or the psoas muscles, then, while the abdominal muscles are as much relaxed as possible, with the tips of two or more fingers the operator seeks from the front or from the side to work down upon the part or organ to be influenced, and to draw it against one of the underlying parts, or to press it down upon or against some resisting object. * * *

5. Internal massage divides itself into *active* and *passive*. The active form consists in a process of kneading, of pulling and pushing, by means of the two hands working together, the fingers of the one being placed in the vagina (more rarely in the rectum), of the other on the abdomen.

The passive form depends on the introduction of cylinders into the abdomen for the purpose of widening and of stretching the tissues. Active or "combined massage," is that which has hitherto been most frequently practiced. * * * It consists in kneading the affected part, that is to say, the operator tries from the vagina and abdominal surface to take the part between the fingers and to rub and press and squeeze it. With this process of kneading (*pétrissage*) may be associated a form suitable for gynecological cases, consisting in pressing and drawing the parts in various directions according to the object to be attained (der Zugdruck). It is especially efficacious in dealing with cicatricial bands, and often affords better results, with less pain, than the kneading process. * * *

Few women can tolerate the process more than once or twice a day, from ten to fifteen minutes each time. Apart from the pain, a marked impression is produced on the nervous system. I entirely omit any reference to sexual excitement, which can easily be avoided, and which, for my own part, I have never observed, but I refer to a nervous excitement of quite a different character, which is often produced by gynecological manipulations, even in the most unimpressible women. On the other hand, it has been shown with regard to massage for any purpose that only the courses of treatment which are regularly and systematically carried out with as few interruptions as possible are followed by any satisfactory result. The same is true in gynecology, and the performance of

the process of active massage only twice or three times a week produces little or no effect. From this dilemma I tried to escape by the introduction of passive massage. [The description here given of this process proves it to be somewhat similar to that sometimes carried out in the preparation of a patient for the operation of vesico-vaginal fistula when there are cicatrices in the vagina, or in case of vaginismus. A series of vulcanite cylinders are employed to gradually dilate the parts contracted by cicatrix or spasm. The author claims for this process that it is the only means by which the sittings of the course of active massage can be reduced to two or three a week.]

Massage may be advantageously combined with baths or with other therapeutic agents, such as iodine or iodoform. . . .

7. (*a*) An absolute contra-indication is every acute disease, even if it runs its course without fever, and every sub-acute disease which has been accompanied by rise of temperature in its acute stage.

In cases of exudation it is a safeguard against mishaps if we make two to three months absence of fever a condition of employing massage; in the case of hæmatocele we may make a beginning six to eight weeks from its occurrence.

(*b*) Conditional contra-indications are: pregnancy, suspicion of consumption, perhaps latent gonorrhœa. In the first months of pregnancy we may cautiously employ active massage upon painful cicatricial bands. In the later months passive massage may be used for cicatrices of the vagina from whatever cause.

In a lady belonging to a consumptive family with catarrh of the apices I once observed, after massage for exudation, an attack of pleurisy which may have been set up by the process; . . . in undoubted latent gonorrhœa I have twice during massage observed joint affections very painful and associated with slight fever, which I considered to be gonorrhœal rheumatism. . . .

The following are the results obtained:

From July, 1882, to July, 1884, one hundred and two women were treated by massage (not counting the incomplete cases of the last few months).

Of these we set aside at once sixteen who would not go on with the course owing to the pain or from some other cause. Fourteen of these sixteen cases occurred during the first five months, only two in the last nineteen months, proving that it was not the method itself, but the operator that was at fault. With increasing experience and greater dexterity, the cases of excessive painfulness became rare. Among the remaining eighty-six there were five cases of new formations. Encouraged by the success of Winiwarter, I tried massage in three cases of small intra-ligamentary tumors; two of them disappeared without any concomitant bad symptoms and without return; the third developed apace and

came later for operation. The attempt to aid the gradual enucleation of submucous fibroids failed in two cases.

Thirteen times was massage undertaken for prolapse of the uterus. The chances of a favourable result were small on pathologico-anatomical grounds, but inasmuch as the professional *masseures* boast of successes in this condition, I have from time to time given it a trial. Only once in a case of slight prolapse was a cure effected; twice there was slight improvement; in all three I attributed the result to the improvement of the general health of the patient. In marked prolapse, or in complete procidentia, conditions in which the Swedish *masseures* claim to have succeeded, I never saw any kind of improvement. . . . Further, ten cases of chronic metritis and subinvolution were treated by massage; the number may seem small, but it should be remembered that the majority of such ailments are cured by simpler measures. The whole ten cases were of specially long duration and obstinacy, so that a complete cure in four cases and improvement in three is a very noteworthy result.

Of eighteen cases of exudation (including five cases of hæmatocele) eight (including two of hæmatocele) were completely cured, two were relieved to the extent of an entire absence of symptoms, and a less degree of improvement occurred in other three. In the three cases already mentioned (one of pleurisy, two of gonorrhœal rheumatism) harm was done. I have never had a case in which fresh inflammation was set up in an old exudation, such as is mentioned by some operators; but I have been extremely cautious in applying massage to exudation cases.

The largest class of cases suitable for massage are the old cicatricial, contracted remnants of exudation, callous cicatricial bands upon a basis of simple inflammation, with the changes in the position of the uterus and ovaries depending upon these conditions. Out of forty such cases twenty-four were cured, and of ten improved eight were in a clinical sense also cured. . . .

It would be foolish to call these results brilliant; it would, however, be a mistake to overlook their value. If we remember that in every case other therapeutic measures had preceded, and when we think how little success we have attained in the cure of old exudations and the dissipation of obstinate cicatricial bands, we must admit that the results here obtained are sufficient to challenge a further trial of massage in gynæcology.

THE following is the Committee of Arrangements of the State Medical Society for the Dayton meeting: Dr. J. M. Weaver, Chairman; Dr. E. Jennings; Dr. H. S. Jewett; Dr. A. H. Iddings: Dr. Geo. Goodhue.

Laparo-myomatomy. — Kaltenbach (*Zeit. f. Geb. u. Gyn.*) observes that no question in all gynecology is discussed with so much animation as this one. From some cause or other, however, the published reports of cases are too few in number for the establishment of principles concerning the operation. The principles which are applicable in ovariotomy are valuable to a certain extent, but they are not sufficiently comprehensive for the operation under discussion. In other words, we must be well grounded in the proper methods, technique and indications for this operation, and also as to the anatomical relations of the extirpated tumor, and the phenomena which attend the condition subsequent to operation, even after the patient has recovered from the immediate effects of the removal of the growth.

Ten cases comprise the author's experience, extending over a series of years. In two of these cases myomotomy was performed, and in the remaining eight supra-vaginal amputation of the uterus, the two operations being essentially different, both as to difficulty of operation and as to significance. In myomotomy the tumor has little or no pedicle, the uterus is unharmed, or at least its cavity is not opened. The treatment of the stump is almost invariably intraperitoneal, the particular method being governed by the thickness and vascularity of the pedicle. If the pedicle is very thin, excision of the tumor, with subsequent covering of the cut surface with peritoneum, and suturing the divided edges of the latter, is Schroeder's plan, and is approved by the author. In cases in which the pedicle is more than 0·5 cm. in thickness, the best plan is to transfix and ligate, as in ovariotomy, and also to throw another pedicle around the mass for additional security. Silk is recommended for ligating small pedicles and the elastic ligature for large ones.

In the supra-vaginal amputation of the uterus the uterine cavity is, of course opened, and the pedicle consists of the remnants of this body, if any, and the neck, together with the dependent ligaments. Trunk vessels are in this case divided, and means for ingress of infectious matter are afforded by the canal of the cervix, with its lining of mucous membrane. The author's preference for extraperitoneal treatment of the stump in this operation is seen in the fact that in all his eight cases this method was used. The stump was held in position by long, lance-shaped needles, resting upon the abdomen; its wounded surface was thoroughly cauterized, and antiseptic applications were constantly used. In some cases the elastic ligature was carried round the pedicle, and in others the latter was transfixed by it. Only one of these eight cases was fatal. Regarding the removal of the ovaries, the author thinks this should form a part of the operation in every case in which the climacteric has not been reached. The indication for operation in two of the author's cases was the great size of the tumor; in four, its rapid growth, hemorrhages, irritation, and uncomfortable pressure upon the abdominal organs; in one,

total prolapse of the uterus, and in one the great discomfort in the pelvic region caused by a tumor in Douglas' cul-de-sac.

The author is in favor of early operations, to anticipate the discomforts or even serious conditions which may attend the growth of the tumor. The latter is to be removed entire, if possible, thus saving time and diminishing hemorrhage.

The history of Kaltenbach's patients after recovery is satisfactory in most respects. The general health of all remained good, in three there was a ventral hernia, in one a cervical fistula opened into the peritoneum. These were the most serious accidents which occurred.

The prognosis in such operations is now nearly as good as in the removal of any abdominal tumors. The chief dangers lie in the possibility of hemorrhage from the extensive development of vessels in the base of the tumor; in the possible formation of emboli or thrombi, on account of dilation of the parametral veins, and in anæmia caused by the sudden removal of a firm body from the abdominal cavity. On the other hand, it may be said that the tumors are usually benign in character, that they can generally be removed entire, that there are few adhesions, and that the peritoneal cavity can usually be entirely cleansed. As to the merits of the intra- and extra-peritoneal methods of treating the pedicle, the author's results were obtained with the latter, and he is naturally inclined favorably to a plan which has served him so well. The main improvements which recommend to operators the intreperitoneal method consist in the isolated treatment of the four trunk vessels and in the firm suturing of the pedicle. Danger from hemorrhage and from sepsis is thus to a great degree eliminated. The details of the operation do not differ from those which have been recommended by Schroeder. With further improvements in the intra-peritoneal method the author thinks it will ere long supersede the older method. With present experience both methods have their adherents and complete justification.—*N. Y. Med. Jour.*

Hæmatocele, Hæmatosalpinx, and the Reflex Theory.—After reporting a number of such cases, some of them observed by himself, Dr. Otto Alberts, in Berlin, endeavors to answer the question, how the blood-tumors of the tubes have their origin, (*Deutsche Med. Zeitung*, No. 100, p. 573).

Considering the nature of the affection, there are but three possibilities. Either these tumors are caused by hemorrhages of the mucous membrane of the Fallopian tubes, or they develop themselves in consequence of venous stagnation in the uterus, or both causes act in unison.

The reflex theory, notwithstanding that experiments on the dead body seem to prove its correctness, is thrown aside by A. The muscular contraction of the living tube is similar to the intestinal peristaltic, and to judge from the locomotion of the ovum, a centrifugal one. But there is no doubt that the tube itself is the cause of the bleeding. Numerous ob-

servations have demonstrated that at the time of the menses a physiological hæmorrhagic exudation takes place from the mucous membrane of the tubes.

The diagnosis of the hæmatosalpinx is exceedingly difficult, if not discovered on the dead body or determined during life by puncture of the sac. Besides, it usually offers every time a varying picture in the different stages of its development, and neighboring inflammatory processes generally so complicate the affection that but a probable diagnosis can be made in the average case. The treatment best to be recommended would, therefore, be an expectant one, though the results of the post-mortem examinations make us fear that the fatal issue will probably be the general rule, from which rarely an exception may be noted.—*Medical and Surgical Reporter.*

III.—DISEASES OF CHILDREN.

"*Report on the Pathological appearances in Newborn Children of Death by Asphyxia from a Medico-Legal Standpoint.*"—*Aerzliches Intelligenzblatt*, Nos. 38, 39 and 40, 1884.

The report is founded on post mortem examinations of 178 children born at the ninth month; 138 between the seventh and ninth, and 142 fœtuses born alive between the fourth and seventh months. The writer describes the changes characteristic of asphyxia and those due to external violence of criminal or other intent.

The cases of death from asphyxia had the following special features:—In all the serous membranes and in the different mucous membranes, blood extravasations were found in the greater number of cases, and almost without exception, sub-pericardial and sub-pleural hemorrhages were present. Extravasations were also often present in the spleen, kidneys, thymus gland, the connective tissue surrounding the pancreas, and under the scalp, epicranial aponeurosis and pericranium.

In the middle ear and nasal fosse there was almost always a dark-red discoloration of the mucous membrane, and in many cases also, blood was exuded.

Hemorrhages into the conjunctiva and retina, and in the form of small striations in the vocal cords were of frequent occurrence.

Extravasation into the tissue of the lungs was very rare, and blood was never found in the alveoli or bronchi unless it had come from the nose of the child or from the genital passages of the mother through aspiratory efforts.

If death had not been brought about very rapidly, œdema of the lungs, larynx and nasal mucous membrane was found, and sometimes interstitial emphysema, the latter, however, being not uncommon even in cases of rapid asphyxia.

In the bones and muscles there were no changes except great fulness of the blood vessels.

Of medico-legal significance are the following conclusions given by Dr. Nobiling, viz.:

1. Large blood extravasations in the skin are always the result of external violence.

2. Effusions of blood in the muscles of the neck and in the course of the great vessels of the neck point clearly to attempted strangulation.

3. Hemorrhages between the liver and its capsule, and in the liver substance are always the result of external violence.

In all these cases it is necessary to exclude difficult labors, operative measures and attempts at resuscitation.

4. Lesions of the peritoneal membrane and rupture of the liver, spleen, and kidneys are due to violence; they may be caused by the firm grasp of a hand round the child's body, and are not uncommon after attempts at artificial respiration.

5. Hemorrhages in the umbilical cord are very rarely caused during the act of birth, or during attempts at replacement in cases of prolapse of the cord. They are almost always due to violence of some form, especially to tearing the cord.

6. Thick, circular blood extravasations on the head or other parts of the body may be due to either difficult labor or external violence.

7. Hemorrhages in the lips, muscles of the tongue, palate or gullet, should raise a suspicion of violence (either operative or criminal); this will be confirmed if slight wounds of the mucous-membranes of the parts affected are found.

8. Swelling of the lips—if not accounted for by the position of the face during parturition — must be considered a sign of the pressure of a hand on the child's mouth.

9. Hemorrhage into the external auditory meatus and external ear was not observed in any of the cases. This is always due to external violence.

10. Ecchymoses in the muscles, unless the result of difficult labor, etc., are always due to violence.

11. If asphyxia is caused by immersing the child in some fluid medium or in dust, this will very frequently be found in the nose, mouth, throat, stomach or lungs.

12. Blood in the trachea, bronchi and alveoli is usually due to aspiration from the maternal passages or from the child's nose.

If the ecchymoses of the muscles are due to operative interference and not to criminal acts, we must remember that the presentation of the child will probably have been abnormal, and in this case the caput succedaneum will not be on the head but on some other part of the body; therefore, the presence of a caput succedaneum on the head, with signs of external vio-

lence will make us suspect criminal interference.—*The Manchester Medical Chronicle.*

The Influence of Potassium Bromide on Nutrition. — The favorable results obtained from the use of potassium bromide in different nervous affections, particularly epilepsy, leads one to conclude that the nervous functions are influenced by this drug. B. Schultze (*Zeitsch. für Biologie*, No. 19) made a series of experiments on himself, taking the bromide in ten gramme doses daily for some days. He found a large increase in the volume of the urine on the day the drug was taken. The nitrogen excreted was determined in the urine and feces, but the influence of the bromide upon its elimination was not marked; the sulphur, however, was found to be increased, and the phosphorus diminished. The author, therefore, concludes that under the influence of this drug the metabolic activity of the nerve-centres is diminished, this being accompanied by a decided diminution of the nervous activity.—*Med. and. Surg. Reporter.*

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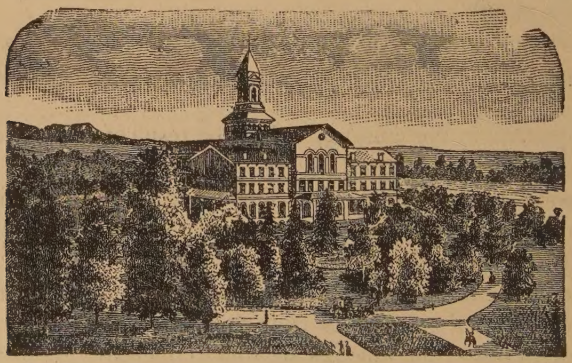

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